REQUEST FOR PROPOSALS

TECHNICAL ASSISTANCE FOR THE

RIO DE JANEIRO STATE GOVERNMENT DATA CENTER AND INFORMATION TECHNOLOGY MODERNIZATION AND INTEGRATION PROJECT

Submission Deadline: **1:00 PM LOCAL TIME**

WEDNESDAY, SEPTEMBER 21, 2011

Submission Place: José Gioia
PRODERJ
Rua da Ajuda, nº 5 - 22º andar - Centro
20040-000 Rio de Janeiro, RJ, Brazil
Phone: 011 55 (21) 2333-0352

SEALED PROPOSALS SHALL BE CLEARLY MARKED AND RECEIVED PRIOR TO THE TIME AND DATE SPECIFIED ABOVE. PROPOSALS RECEIVED AFTER SAID TIME AND DATE WILL NOT BE ACCEPTED OR CONSIDERED.

REQUEST FOR PROPOSALS

Section 1: INTRODUCTION

The U.S. Trade and Development Agency (USTDA) has provided a grant in the amount of US$675,000 to PRODERJ - Centro de Tecnologia da Informação e Comunicação do Estado do Rio de Janeiro ("Grantee") in accordance with a grant agreement dated June 30th, 2011 ("Grant Agreement"). USTDA will fund the cost of goods and services required for the preparation of a technical assistance ("Technical Assistance") on the proposed Rio de Janeiro State Government Data Center and Information Technology Modernization and Integration Project ("Project") in Brazil ("Host Country"). The Grant Agreement is attached at Annex 4 for reference. The Grantee is soliciting technical proposals from qualified U.S. firms to provide expert consulting services to perform the Technical Assistance.

1.1 BACKGROUND SUMMARY

PRODERJ is in charge of managing Rio's state IT networks. It provides data backup services for over 12 state agencies, develops technology policies and guidelines, and promotes and disseminates new information technologies within the state government in Rio de Janeiro. PRODERJ also oversees the state's new ICT investments and guarantees the integrity of networks and ICT services provided by the state.

This project is a priority for the Rio de Janeiro state government. The proposed technical assistance would provide an approach to integrate the state's human resources, procurement, planning and budget hardware and software networks which would facilitate communication between Rio's state government agencies and improve their services. It would also determine the fundamental design requirements, budget, and an implementation plan for the Rio State data center. In addition to providing a roadmap plan for the new datacenter, the technical assistance would include a review of the state's overall IT strategy to provide recommendations and define necessary standards to assure all future IT systems adopted by state agencies are installed in a complementary and interoperable fashion. A background Definitional Mission Report is provided for reference in Annex 2.

1.2 OBJECTIVE

The objective of the Technical Assistance for the Rio de Janeiro State Government Data Center and Information Technology Modernization and Integration Project is two-fold. First, it is to review and refine the over-arching technology strategy of the State of Rio de Janeiro to develop a clear, non-technical vision guiding Rio Information and Communication Technology (ICT) investments that will clearly describe how information infrastructure will facilitate continued improvement in the core business processes of Rio as a whole, and specify technical standards that will help make disparate state ICT investments more interoperable and complementary. The second purpose of these terms of reference is to determine the fundamental design requirements, budget, and an implementation plan for the Rio state data center project in light of the refined technology strategy. These strategy and technical design tasks shall be carried out in parallel. The Terms of Reference (TOR) for this Technical Assistance are attached as Annex 5.

1.3 PROPOSALS TO BE SUBMITTED

Technical proposals are solicited from interested and qualified U.S. firms. The administrative and technical requirements as detailed throughout the Request for Proposals (RFP) will apply. Specific proposal format and content requirements are detailed in Section 3.

The amount for the contract has been established by a USTDA grant of US$675,000. **The USTDA grant of US$675,000 is a fixed amount. Accordingly, COST will not be a factor in the evaluation and therefore, cost proposals should not be submitted**. Upon detailed evaluation of technical proposals, the Grantee shall select one firm for contract negotiations.

1.4 CONTRACT FUNDED BY USTDA

In accordance with the terms and conditions of the Grant Agreement, USTDA has provided a grant in the amount of US$675,000 to the Grantee. The funding provided under the Grant Agreement shall be used to fund the costs of the contract between the Grantee and the U.S. firm selected by the Grantee to perform the TOR. The contract must include certain USTDA Mandatory Contract Clauses relating to nationality, taxes, payment, reporting, and other matters. The USTDA nationality requirements and the USTDA Mandatory Contract Clauses are attached at Annexes 3 and 4, respectively, for reference.

Section 2: INSTRUCTIONS TO OFFERORS

2.1 PROJECT TITLE

The project is called Rio de Janeiro State Government Data Center and Information Technology Modernization and Integration Project.

2.2 DEFINITIONS

Please note the following definitions of terms as used in this RFP.

The term "Request for Proposals" means this solicitation of a formal technical proposal, including qualifications statement.
The term "Offeror" means the U.S. firm, including any and all subcontractors, which responds to the RFP and submits a formal proposal and which may or may not be successful in being awarded this procurement.

2.3 DEFINITIONAL MISSION REPORT

USTDA sponsored a Definitional Mission to address technical, financial, sociopolitical, environmental and other aspects of the proposed project. A copy of the report is attached at Annex 2 for background information only. Please note that the TOR referenced in the report are included in this RFP as Annex 5.

2.4 EXAMINATION OF DOCUMENTS

Offerors should carefully examine this RFP. It will be assumed that Offerors have done such inspection and that through examinations, inquiries and investigation they have become familiarized with local conditions and the nature of problems to be solved during the execution of the Technical Assistance.

Offerors shall address all items as specified in this RFP. Failure to adhere to this format may disqualify an Offeror from further consideration.

Submission of a proposal shall constitute evidence that the Offeror has made all the above mentioned examinations and investigations, and is free of any uncertainty with respect to conditions which would affect the execution and completion of the Feasibility Study.

2.5 PROJECT FUNDING SOURCE

The Technical Assistance will be funded under a grant from USTDA. The total amount of the grant is not to exceed US$675,000.

2.6 RESPONSIBILITY FOR COSTS

Offeror shall be fully responsible for all costs incurred in the development and submission of the proposal. Neither USTDA nor the Grantee assumes any obligation as a result of the issuance of this RFP, the preparation or submission of a proposal by an Offeror, the evaluation of proposals, final selection or negotiation of a contract.

2.7 TAXES

Offerors should submit proposals that note that in accordance with the USTDA Mandatory Contract Clauses, USTDA grant funds shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in the Host Country.

2.8 CONFIDENTIALITY

The Grantee will preserve the confidentiality of any business proprietary or confidential information submitted by the Offeror, which is clearly designated as such by the Offeror, to the extent permitted by the laws of the Host Country.

2.9 ECONOMY OF PROPOSALS

Proposal documents should be prepared simply and economically, providing a comprehensive yet concise description of the Offeror's capabilities to satisfy the requirements of the RFP. Emphasis should be placed on completeness and clarity of content.

2.10 OFFEROR CERTIFICATIONS

The Offeror shall certify (a) that its proposal is genuine and is not made in the interest of, or on behalf of, any undisclosed person, firm, or corporation, and is not submitted in conformity with, and agreement of, any undisclosed group, association, organization, or corporation; (b) that it has not directly or indirectly induced or solicited any other Offeror to put in a false proposal; (c) that it has not solicited or induced any other person, firm, or corporation to refrain from submitting a proposal; and (d) that it has not sought by collusion to obtain for itself any advantage over any other Offeror or over the Grantee or USTDA or any employee thereof.

2.11 CONDITIONS REQUIRED FOR PARTICIPATION

Only U.S. firms are eligible to participate in this tender. However, U.S. firms may utilize subcontractors from the Host Country for up to 20 percent of the amount of the USTDA grant for

specific services from the TOR identified in the subcontract. USTDA's nationality requirements, including definitions, are detailed in Annex 3.

2.12 LANGUAGE OF PROPOSAL

All proposal documents shall be prepared and submitted in English and Portuguese. Annex 6 does not need to be translated into Portuguese.

2.13 PROPOSAL SUBMISSION REQUIREMENTS

The **Cover Letter** in the proposal must be addressed to:

José Gioia
PRODERJ
Rua da Ajuda, nº 5 - 22º andar - Centro
20040-000 Rio de Janeiro, RJ, Brazil
Phone: 011 55 (21) 2333-0352

An Original in English and Portuguese, one (1) copy in English, and three (3) copies in Portuguese of your proposal must be received at the above address no later than Wednesday, September 21, 2011, at 1:00 pm (local time).

Proposals may be either sent by mail, overnight courier, or hand-delivered. Whether the proposal is sent by mail, courier or hand-delivered, the Offeror shall be responsible for actual delivery of the proposal to the above address before the deadline. Any proposal received after the deadline will be returned unopened. The Grantee will promptly notify any Offeror if its proposal was received late.

Upon timely receipt, all proposals become the property of the Grantee.

2.14 PACKAGING

The original and each copy of the proposal must be sealed to ensure confidentiality of the information. The proposals should be individually wrapped and sealed, and labeled for content including "original" or "copy number x"; the original **in English and Portuguese, one (1) copy in English, and three (3) copies in Portuguese** should be collectively wrapped and sealed, and clearly labeled.

Neither USTDA nor the Grantee will be responsible for premature opening of proposals not properly wrapped, sealed and labeled.

2.15 AUTHORIZED SIGNATURE

The proposal must contain the signature of a duly authorized officer or agent of the Offeror empowered with the right to bind the Offeror.

2.16 EFFECTIVE PERIOD OF PROPOSAL

The proposal shall be binding upon the Offeror for NINETY (90) days after the proposal due date, and Offeror may withdraw or modify this proposal at any time prior to the due date upon written request, signed in the same manner and by the same person who signed the original proposal.

2.17 EXCEPTIONS

All Offerors agree by their response to this RFP announcement to abide by the procedures set forth herein. No exceptions shall be permitted.

2.18 OFFEROR QUALIFICATIONS

As provided in Section 3, Offerors shall submit evidence that they have relevant past experience and have previously delivered advisory, feasibility study and/or other services similar to those required in the TOR, as applicable.

2.19 RIGHT TO REJECT PROPOSALS

The Grantee reserves the right to reject any and all proposals.

2.20 PRIME CONTRACTOR RESPONSIBILITY

Offerors have the option of subcontracting parts of the services they propose. The Offeror's proposal must include a description of any anticipated subcontracting arrangements, including the name, address, and qualifications of any subcontractors. USTDA nationality provisions apply to the use of subcontractors and are set forth in detail in Annex 3. The successful Offeror shall cause appropriate provisions of its contract, including all of the applicable USTDA Mandatory Contract Clauses, to be inserted in any subcontract funded or partially funded by USTDA grant funds.

2.21 AWARD

The Grantee shall make an award resulting from this RFP to the best qualified Offeror, on the basis of the evaluation factors set forth herein. The Grantee reserves the right to reject any and all proposals received and, in all cases, the Grantee will be the judge as to whether a proposal has or has not satisfactorily met the requirements of this RFP.

2.22 COMPLETE SERVICES

The successful Offeror shall be required to (a) provide local transportation, office space and secretarial support required to perform the TOR if such support is not provided by the Grantee; (b) provide and perform all necessary labor, supervision and services; and (c) in accordance with best technical and business practice, and in accordance with the requirements, stipulations, provisions and conditions of this RFP and the resultant contract, execute and complete the TOR to the satisfaction of the Grantee and USTDA.

2.23 INVOICING AND PAYMENT

Deliverables under the contract shall be delivered on a schedule to be agreed upon in a contract with the Grantee. The Contractor may submit invoices to the designated Grantee Project Director in accordance with a schedule to be negotiated and included in the contract. After the Grantee's approval of each invoice, the Grantee will forward the invoice to USTDA. If all of the requirements of USTDA's Mandatory Contract Clauses are met, USTDA shall make its respective disbursement of the grant funds directly to the U.S. firm in the United States. All payments by USTDA under the Grant Agreement will be made in U.S. currency. Detailed provisions with respect to invoicing and disbursement of grant funds are set forth in the USTDA Mandatory Contract Clauses attached in Annex 4.

Section 3: PROPOSAL FORMAT AND CONTENT

To expedite proposal review and evaluation, and to assure that each proposal receives the same orderly review, all proposals must follow the format described in this section.

Proposal sections and pages shall be appropriately numbered and the proposal shall include a Table of Contents. Offerors are encouraged to submit concise and clear responses to the RFP. Proposals shall contain all elements of information requested without exception. Instructions regarding the required scope and content are given in this section. The Grantee reserves the right to include any part of the selected proposal in the final contract.

The proposal shall consist of a technical proposal only. A cost proposal is NOT required because the amount for the contract has been established by a USTDA grant of US$675,000, which is a fixed amount.

Offerors shall submit **one (1) original in English and Portuguese, one (1) copy in English and three (3) copies in Portuguese** of the proposal. Proposals received by fax cannot be accepted.

Each proposal must include the following:

Transmittal Letter,
Cover/Title Page,
Table of Contents,
Executive Summary,
Company Information,
Organizational Structure, Management Plan, and Key Personnel,
Technical Approach and Work Plan, and
Experience and Qualifications.

Detailed requirements and directions for the preparation of the proposal are presented below.

3.1 EXECUTIVE SUMMARY

An Executive Summary should be prepared describing the major elements of the proposal, including any conclusions, assumptions, and general recommendations the Offeror desires to make. Offerors are requested to make every effort to limit the length of the Executive Summary to no more than five (5) pages.

3.2 COMPANY INFORMATION

For convenience, the information required in this Section 3.2 may be submitted in the form attached in Annex 6 hereto.

3.2.1 Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information requested in sections 3.2.5 and 3.2.6 below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers.

2. Year established (include predecessor companies and year(s) established, if appropriate).

3. Type of ownership (e.g. public, private or closely held).

4. If private or closely held company, provide list of shareholders and the percentage of their ownership.

5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (*) next to the names of those principal officers who will be involved in the Technical Assistance.

6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).

7. Project Manager's name, address, telephone number, e-mail address and fax number.

3.2.2 Offeror's Authorized Negotiator

Provide name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

3.2.3 Negotiation Prerequisites

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Technical Assistance as proposed and reflect such impact within the project schedule.

2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

3.2.4 Offeror's Representations

If any of the following representations cannot be made, or if there are exceptions, the Offeror must provide an explanation.

1. Offeror is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of _____. The Offeror has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the Technical Assistance. The Offeror is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment, or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. The Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date of its proposal by the State of _____. The Offeror commits to notify USTDA and the Grantee if they become aware of any change in their status in the state in which they are incorporated. USTDA retains the right to request an updated certificate of good standing.

3. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

4. Neither the Offeror, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.

5. There are no federal or state tax liens pending against the assets, property or business of the Offeror. The Offeror, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

6. The Offeror has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee.

3.2.5 Subcontractor Profile

1. Name of firm and business address (street address only), including telephone and fax numbers.

2. Year established (include predecessor companies and year(s) established, if appropriate).

3.2.6 Subcontractor's Representations

If any of the following representations cannot be made, or if there are exceptions, the Subcontractor must provide an explanation.

1. Subcontractor is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of _____. The subcontractor has all the requisite corporate power and authority to conduct its business as presently conducted, to participate in this proposal, and if the Offeror is selected, to execute and deliver a subcontract to the Offeror for the performance of the Technical Assistance and to perform the Technical Assistance. The subcontractor is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. Neither the subcontractor nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

3. Neither the subcontractor, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.

4. There are no federal or state tax liens pending against the assets, property or business of the subcontractor. The subcontractor, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

5. The subcontractor has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The subcontractor has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected subcontractor shall notify the Offeror, Grantee and USTDA if any of the representations included in this proposal are no longer true and correct at the time of the Offeror's entry into a contract with the Grantee.

3.3 ORGANIZATIONAL STRUCTURE, MANAGEMENT, AND KEY PERSONNEL

Describe the Offeror's proposed project organizational structure. Discuss how the project will be managed including the principal and key staff assignments for this Technical Assistance. Identify the Project Manager who will be the individual responsible for this project. The Project Manager shall have the responsibility and authority to act on behalf of the Offeror in all matters related to the Technical Assistance.

Provide a listing of personnel (including subcontractors) to be engaged in the project, including both U.S. and local subcontractors, with the following information for key staff: position in the project; pertinent experience, curriculum vitae; other relevant information. If subcontractors are to be used, the Offeror shall describe the organizational relationship, if any, between the Offeror and the subcontractor.

A manpower schedule and the level of effort for the project period, by activities and tasks, as detailed under the Technical Approach and Work Plan shall be submitted. A statement confirming the availability of the proposed project manager and key staff over the duration of the project must be included in the proposal.

3.4 TECHNICAL APPROACH AND WORK PLAN

Describe in detail the proposed Technical Approach and Work Plan (the "Work Plan"). Discuss the Offeror's methodology for completing the project requirements. Include a brief narrative of the Offeror's methodology for completing the tasks within each activity series. Begin with the information gathering phase and continue through delivery and approval of all required reports.

Prepare a detailed schedule of performance that describes all activities and tasks within the Work Plan, including periodic reporting or review points, incremental delivery dates, and other project milestones.

Based on the Work Plan, and previous project experience, describe any support that the Offeror will require from the Grantee. Detail the amount of staff time required by the Grantee or other participating agencies and any work space or facilities needed to complete the Technical Assistance.

3.5 EXPERIENCE AND QUALIFICATIONS

Provide a discussion of the Offeror's experience and qualifications that are relevant to the objectives and TOR for the Technical Assistance. If a subcontractor(s) is being used, similar information must be provided for the prime and each subcontractor firm proposed for the project. The Offeror shall provide information with respect to relevant experience and qualifications of key staff proposed. The Offeror shall include letters of commitment from the individuals proposed confirming their availability for contract performance.

As many as possible but not more than six (6) relevant and verifiable project references must be provided for each of the Offeror and any subcontractor, including the following information:

Project name,
Name and address of client (indicate if joint venture),
Client contact person (name/ position/ current phone and fax numbers),
Period of Contract,
Description of services provided,
Dollar amount of Contract, and
Status and comments.

Offerors are strongly encouraged to include in their experience summary primarily those projects that are similar to or larger in scope than the Technical Assistance as described in this RFP.

Section 4: AWARD CRITERIA

Individual proposals will be initially evaluated by a Procurement Selection Committee of representatives from the Grantee. The Committee will then conduct a final evaluation and completion of ranking of qualified Offerors. The Grantee will notify USTDA of the best qualified Offeror, and upon receipt of USTDA's no-objection letter, the Grantee shall promptly notify all Offerors of the award and negotiate a contract with the best qualified Offeror. If a satisfactory contract cannot be negotiated with the best qualified Offeror, negotiations will be formally terminated. Negotiations may then be undertaken with the second most qualified Offeror and so forth.

The selection of the Contractor will be based on the following criteria:

(1) U.S. Firm's Expertise and Relevant Experience (25 Points)

U.S. Firm's demonstrated professional experience in the ICT sector with specific reference to institutional IT strategy development and data center design including engineering, business, and project finance technical assistance to successful large, scale ICT infrastructure projects; demonstrated experience in developing successful project financing packages for large-scale infrastructure projects, preferably in the

telecommunications sector; multi-disciplinary telecommunications and ICT sector experience bridging ICT engineering, energy provision, business implementation, and project finance.

(2) U.S. Firm's Work Plan and Approach (20 Points)

U.S. Firm's proposed work plan and approach to the planning, organization, and implementation of technical assistance to PRODERJ and in particular how the U.S. Firm would apply its competencies institutional IT strategy development and data center design in Brazil. Demonstration and understanding of, and responsiveness to, program objectives and soundness of approach; Overall innovative nature of proposed activities and approach to measure, monitor, and evaluate performance and impact; Soundness of approach and methodology.

(3) Availability of Qualified Personnel (25 Points)

Demonstrated qualifications and abilities of each of U.S. Firm's proposed key personnel in terms of the requirements of this Contract and specific roles and responsibilities. Effective management, use and deployment of technical resources; the U.S. Firm should provide (a) detailed resumes for each of the proposed key personnel; (b) examples of relevant work in ICT infrastructure projects, including a succinct statement indicating how these activities are directly relevant to institutional IT strategy development and data center design in Brazil; and (c) not less than two letters of professional references from individuals who have direct and specific knowledge of the U.S. Firm's relevant experience and the information required in the following Questionnaire:

Relevant Experience Questionnaire

Instructions: For each contract provided, respondents will complete the following worksheet.

Company Name: _____
Agency/Customer Name: _____
Point of Contact: _____
Referenced Contract/Project Name: _____
Reference Contract/Project No.: _____

Contract Type:	
Contract Start Date:	
Original Completion Date:	
Estimated/Actual Completion Date:	

Explanation of Delay, if applicable:	
Brief Contract Description (size and scope): (Use additional pages as required)	
Contact Information:	**Name/Title:** **Phone Number:** **Email:**
Contract Value:	

(4) Past Performance (20 Points)

The quality of the U.S. Firm's past performance will be used to assess the credibility of the U.S. Firm's proposal for performance of the work specified in this solicitation. In evaluating a U.S. Firm's past performance, it will be relevant whether the U.S. Firm has consistently provided customers and clients with quality services on time and has demonstrated success in achieving results in the areas described in the program description.

(5) Knowledge of Brazil and Latin America (10 Points)

Contractor's experience in, and knowledge of, Brazil and Latin America and its specific relevance to the work that will be required under this Contract. Additional consideration will be given to teams with a working knowledge of Portuguese.

Proposals that do not include all requested information may be considered non-responsive.

Price will not be a factor in contractor selection.

ANNEX 1

José Gioia, PRODERJ, Rua da Ajuda, nº 5 - 22º andar - Centro
20040-000 Rio de Janeiro, RJ, Brazil, Phone: 011 55 (21) 2333-0352

B – Brazil: Rio de Janeiro State Government Data Center and Information Technology Modernization and Integration Project

POC: Nina Patel, USTDA, 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901, Tel: (703) 875-4357, Fax: (703) 875-4009. RIO DE JANEIRO STATE GOVERNMENT DATA CENTER AND INFORMATION TECHNOLOGY MODERNIZATION AND INTEGRATION PROJECT. The Grantee invites submission of qualifications and proposal data (collectively referred to as the "Proposal") from interested U.S. firms that are qualified on the basis of experience and capability to develop a technical assistance to design a complete roadmap and implementation plan for a new data center in the state of Rio de Janeiro as well as provide recommendations and define necessary standards to assure all future IT systems adopted by state agencies are installed in a complementary and interoperable fashion.

PRODERJ is in charge of managing Rio's state IT networks. It provides data backup services for over 12 state agencies, develops technology policies and guidelines, and promotes and disseminates new information technologies within the state government in Rio de Janeiro. PRODERJ also oversees the state's new ICT investments and guarantees the integrity of networks and ICT services provided by the state.

The U.S. firm selected will be paid in U.S. dollars from a $675,000 grant to the Grantee from the U.S. Trade and Development Agency (USTDA).

A detailed Request for Proposals (RFP), which includes requirements for the Proposal, the Terms of Reference, and a background definitional mission/desk study report are available from USTDA, at 1000 Wilson Boulevard, Suite 1600, Arlington, VA 22209-3901. To request the RFP in PDF format, please go to: https://www.ustda.gov/businessopps/rfpform.asp. Requests for a mailed hardcopy version of the RFP may also be faxed to the IRC, USTDA at 703-875-4009. In the fax, please include your firm's name, contact person, address, and telephone number. Some firms have found that RFP materials sent by U.S. mail do not reach them in time for preparation of an adequate response. Firms that want USTDA to use an overnight delivery service should include the name of the delivery service and your firm's account number in the request for the RFP. Firms that want to send a courier to USTDA to retrieve the RFP should allow one hour after faxing the request to USTDA before scheduling a pick-up. Please note that no telephone requests for the RFP will be honored. Please check your internal fax verification receipt. Because of the large number of RFP requests, USTDA cannot respond to requests for fax verification. Requests for RFPs received before 4:00 PM will be mailed the same day. Requests received after 4:00 PM will be mailed the following day. Please check with your courier and/or mail room before calling USTDA.

Only U.S. firms and individuals may bid on this USTDA financed activity. Interested firms, their subcontractors and employees of all participants must qualify under USTDA's

nationality requirements as of the due date for submission of qualifications and proposals and, if selected to carry out the USTDA-financed activity, must continue to meet such requirements throughout the duration of the USTDA-financed activity. All goods and services to be provided by the selected firm shall have their nationality, source and origin in the U.S. or host country. The U.S. firm may use subcontractors from the host country for up to 20 percent of the USTDA grant amount. Details of USTDA's nationality requirements and mandatory contract clauses are also included in the RFP.

Interested U.S. firms should submit their Proposal in English and Portuguese directly to the Grantee by 1:00 pm (local time), September 21, 2011 at the above address. Evaluation criteria for the Proposal are included in the RFP. Price will not be a factor in contractor selection, and therefore, cost proposals should NOT be submitted. The Grantee reserves the right to reject any and/or all Proposals. The Grantee also reserves the right to contract with the selected firm for subsequent work related to the project. The Grantee is not bound to pay for any costs associated with the preparation and submission of Proposals.

ANNEX 2

UNITED STATES TRADE AND DEVELOPMENT AGENCY

Definitional Mission: Brazil:
ICT Sector Opportunities Definitional Mission

WASHINGTON STRATEGIC ADVISORS, LLC

22 East 36th Street
New York, New York 10016

Tel: +1 (646) 639 2900
E-mail: rgn@washstrat.com

Pokrovskiy Boulevard, 14
Moscow 121069
Russia Federation
Tel: + 7 (495) 760- 6432
E-mail: rgn@washstrat.com

July 15, 2011

PROJECT RECOMMENDATION

Rio State IT Strategy Review and Data Center Design

Project Summary

The Center for Information and Communications Technology (ICT) is an autonomous agency of the State government of Rio de Janeiro. Initially created in 1968 as the *Centro de Processamento de Dados do Estado de Rio de Janeiro*, the Center was transformed into an autonomous entity in 1981, when it evolved from being solely a data processing bureau to take on responsibilities including integrating State systems, managing State networks, hosting corporate systems, backing up data for over 12 State agencies, developing technology policies and guidelines, and promoting and disseminating new information technologies for government and the general public. The Center also adopted a new name: PRODERJ. In its various and expanding roles within the State, PRODERJ's guiding principle is summed up as "technology in the service of the citizen."

Rio State is rapidly developing and deploying a diversity of ICT solutions to improve public administration and facilitate service delivery to citizens. PRODERJ has played a special role in supporting and catalyzing these Rio State ICT investments. Those systems supported by PRODERJ alone include a program for monitoring performance indicators in public schools, online school registration, rapid inspection of commercial goods entering or leaving the State, a database of missing children, an elder care registry, a hospital statistics database, a new cadastre system for the State, a 30-year database of auto thefts, and many others. PRODERJ has developed more than 150 governmental sites, portals, and web applications for an array of Rio State agencies, offices, and secretariats. Current projects Rio State is undertaking include introducing a State-wide biometric identity "smart card" that will be cross-referenced with other identity cards (e.g. driver's license or health services cards), updating the online portal for Government services, and developing a more integrated State-wide ICT platform for public administration. Rio State is looking forward to hosting two global events in the coming years: the 2014 World Cup and the 2016 Olympic games. The State views its ICT investments a key aspect of their preparations, which will include building new infrastructure for communications and disaster response, improving security, and expanding ICT-enabled citizen services. PRODERJ will continue to be deeply involved with these transformations.

Rio State seeks to consolidate and rationalize its progress in applying ICTs for public administration and prepare to support a dramatic expansion in its ICT capabilities. One of the key ICT investments in this transformation will be a Government data center that will host public sector applications, facilitate management of Government networks, and serve backup and disaster recovery functions for data centers and applications maintained by disparate Government agencies. The fundamental design requirements for the data center will be determined projections of the expected useful life of the infrastructure, the desired future capabilities of the State, and planning for contingencies. As a result, effective planning for the data center will be rooted in the over-arching strategy of Rio State strategy, the strategies of

disparate Rio State agencies, and best efforts to predict future scenarios for the State and technology evolution in general.

The Rio State data center project arrives at a critical juncture in the State's successful efforts to realize the promise of ICT for more effective government processes and improved services for citizens. As State networks and applications and data resources grow there is a possibility that these systems will be deployed as disparate, disconnected investments. As a result, there is higher risk of duplicating systems, creating data silos, and fostering poor interoperability between State ICT systems. As the State prepares for significant new investments in information infrastructure, it is a key time to review the State's over-arching ICT strategy, governance, and orienting principles guiding their technology investments. Refining and consolidating Rio State's technology strategy today will provide greater assurance that critical ICT investments will be done right the first time and avoid costly modifications later.

Complex organizations including global firms have successfully grappled with the technology transformations that Rio State is undertaking. A critical component of their approach is rigorous strategy review to map institutional strategy to technology strategy and refine a clear, non-technical vision of what the organization as a whole is seeking to build. This non-technical vision serves to describe the role of information infrastructure and assets in supporting the core business processes of the institution, thus enabling clear communication to senior management, technical personnel, and all other stakeholders. With a strong basis in over-arching strategy and a clear vision of the cumulative result disparate investments are intended to build, ICT investments can be approached as a more integrated whole, rather than as piecemeal systems. This can result in cost savings, increased interoperability, seamless shared processes and data across business units, easier scalability of operations, and a foundation for continued innovation in service delivery.

PRODERJ recognizes that State Government has different strategic objectives and infrastructure requirements than global private enterprises. For this reason PRODERJ seeks technical assistance of a multi-faceted team capable of specifying design requirements for large-scale information infrastructure and applying ICT strategy and governance in a public sector context in a rapidly expanding economy. PRODERJ feels the needs of the State of Rio de Janeiro would best be addressed by a team of experts that integrates best practices in private sector technology strategy, seasoned information technology strategy and governance, leadership of large-scale organizational change for public and private clients, systems and information infrastructure engineering, electrical engineering, project budgeting, and proven project management for large scale ICT infrastructure according to methodologies of reference. PRODERJ requested USTDA assistance in identifying such a team to help address these strategy and infrastructure development tasks.

Project Sponsor's Capabilities and Commitment

PRODERJ has played a special role in supporting and catalyzing critical large-scale investments in ICT infrastructure for Rio State. Systems supported by PRODERJ alone include managing

several State networks, a program for monitoring performance indicators in public schools, online school registration, rapid inspection of commercial goods entering or leaving the State, a database of missing children, an elder care registry, a hospital statistics database, a new cadastre system for the State, a 30-year database of auto thefts, and many others. PRODERJ has developed more than 150 governmental sites, portals, and web applications for an array of Rio State agencies, offices, and secretariats.

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Implementation Financing

PRODERJ has sensitized the Government of Rio State to the need to harmonize ICT investments and invest in a data center that will house Rio State data assets and serve business continuity functions for two smaller existing data centers. PRODERJ advocates that well-dimensioned investment in common ICT infrastructure today will reduce duplicate investments in the future, while supporting expanding capabilities in public service delivery. The State has given the project tentative approval (pending more detailed study and review) for State funding for the project. The 2010 State of Rio de Janeiro budget was approximately $28 billion dollars,[1] and the State has a good history of securing infrastructure financing loans from the Brazilian Development Bank BNDS.[2]

PRODERJ has requested technical assistance in developing other approaches to implementation financing including exploring World Bank, and InterAmerican Development Bank financing options, as well as potential public-private models for the construction of the data center.

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[1] http://www.jusbrasil.com.br/noticias/2036123/alerj-vota-orcamento-do-estado-em-sessao-ordinaria-nesta-terca-feira

[2] http://www.bndes.gov.br/SiteBNDES/bndes/bndes_en/Institucional/Press/Destaques_Primeira_Pagina/20110110_BNDES_Transcarioca.html

U.S. Export Potential

According to PRODERJ estimates the total project implementation cost will be a minimum of US $40 Million. U.S. providers exist for the majority of the hardware, software, and services that will be required to build the Rio State Data center. Total estimated export potential would be over $30 Million:

Item	Quant.	Unit Value	Total Value	Sub-Total	Potential U.S. Suppliers	Potenial Export Opportunity
Data Center - 500 m2						
Secure Room				$8,526,975.00		
Acqusition of Space - 250 m2	250	31,175.60	7,793,900.00			
Installation Services	250	2,932.30	733,075.00			
Elevated Technical Floor	500	217.12	108,560.00	$108,560.00	IBM, Cisco	$108,560.00
Climate Control System				$230,362.18	Rittal Ltd., Hill York, York Intl, Liebert	$230,362.18
Precise climate control system	7	13,420.07	93,940.48			
Installation services	1	136,421.69	136,421.69			
Electric Power Provision				$1,926,545.38		$1,926,545.38
Uninterruptible Power Supply (UPS) , 120kVA	2	88,500.00	177,000.00		Liebert, Sentinal Power, American Power Conversion, Eaton	
500 KVA Emergency Generator	2	106,200.00	212,400.00		Cummins, John Deere, Detroit Diesel	
120 KVA UPS with 15 minute autonomy.	2	147,157.75	294,315.51		Libert, Sentinal Power, American Power Conversion, Eaton	
Dual transfer electrical panels	2	372,859.62	745,719.23		SISCO, Cutler-Hammer, Eaton, Cummins	
Sub-station	1	35,400.00	35,400.00		SISCO, Cutler-Hammer, Eaton, Cummins	
Installation	1	461,710.65	461,710.65		Liebert, SISCO, Eaton	
Fire Detection System	1	59,138.66	59,138.66	$59,138.66	Certified Fire, H3R Halon Fire,Xtralis, Sauer Inc., Fire X Online	$59,138.66
Fire Suppression System	1	82,600.00	82,600.00	$82,600.00	Certified Fire, H3R Halon Fire,Xtralis, Sauer Inc., Fire X Online	$82,600.00
Remote Supervision system	1	50,150.00	50,150.00	$50,150.00	Modius,Aperture	$50,150.00
NOC - Network Operation Center				$382,080.00		$382,080.00
Furniture	8	885.00	7,080.00		Uptime	
LCD 55" Monitors	6	3,500.00	21,000.00		Dell, HP	
Management Software	1	354,000.00	354,000.00		Aspire, Modius	
Support Room				$27,140.00		$27,140.00
Secure Backup	2	13,570.00	27,140.00		IBM, HP, Cisco, Oracle	
Conectivity Room				$1,162,300.00		$1,162,300.00
Protected Rack	2	2,950.00	5,900.00		Sun Microsystems,	
Local Switch	2	118,000.00	236,000.00		Cisco, Juniper	
Access Switch	20	5,310.00	106,200.00		Cisco, Juniper	
Appliances - charge balancer	2	230,100.00	460,200.00		SISCO, Eaton	

Structured Cabling	1000	354.00	354,000.00		Siemon,Vision Technologies,	
Data Center Hardware				$12,817,160.00		$12,817,160.00
Blades	144	67,260.00	9,685,440.00		IBM, HP, Dell, Sun	
Chassis for Blades	12	141,010.00	1,692,120.00		IBM, HP, Dell, Sun	
Storage (32 T)	8	171,690.00	1,373,520.00		IBM, HP, Dell, Sun	
Racks	4	6,490.00	25,960.00		IBM, HP, Dell, Sun	
Data Tape Storage	4	10,030.00	40,120.00		IBM, HP	
Large equipment		242490		$4,042,000.00		$4,042,000.00
Enterprise Class Mainframe Server	2	1,121,000.00	2,242,000.00		IBM	
Storage Backup			1,800,000.00		IBM	
Software				$9,207,979.00		
Operating System	90	53.10	4,779.00			
Data Base			6,500,000.00		Oracle	$6,500,000.00
Service Desk			1,250,000.00		Aspire, Modius	$1,250,000.00
Backup	10	4,600.00	46,000.00		VMWare	$46,000.00
Virtualization Software	100	13,000.00	1,300,000.00		VMWare	$1,300,000.00
Mainframe Virtualization Softare	4	26,800.00	107,200.00		IBM, Cisco, VMWare	$107,200.00
Physical Security				$130,000.00		$130,000.00
Closed Circuit Television System (CCTV)	1	100,000.00	100,000.00		Cisco, HP	
Access Control	1	30,000.00	30,000.00		Cisco, HP	
Data Security				$834,000.00		$834,000.00
Firewall	4	76,000.00	304,000.00		Intel, Cisco, Palo Alto Networks	
Encryption	4	70,000.00	280,000.00		VMWare	
Antivirus	5000	50.00	250,000.00		Kaspersky, Symantec, McAffee	
Migration Services				$700,000.00		$700,000.00
CAERJ Legacy Data	1	350,000.00	350,000.00		IBM, Cisco, HP	
SERPRO Legacy Data	1	350,000.00	350,000.00		IBM, Cisco, HP	
Installations 4,500 m2				$380,000.00		
Workstations	400	350.00	140,000.00		Dell, HP	$140,000.00
Furniture	400	300.00	120,000.00		Uptime	$120,000.00
Moving	1	120,000.00	120,000.00			
TOTAL ESTIMATED PROJECT BUDGET				$40,666,990.22	TOTAL EXPORT OPPORTUNITY:	$32,015,236.22

Foreign Competition and Market Entry Issues

Brazilian ICT industry association BRASSCOM reports two growing trends that impact market entry and foreign competition: the increasing global competitiveness of Brazilian ICT firms across an array of industry segments, and dramatically increasing interest in foreign capital seeking to gain exposure to the Brazilian ICT sector. One notable example found during the Definitional Mission visit: the State of Ceará chose Brazilian-made Dense Wave Division Multiplexing equipment to "light" their 3,000 kilometer fiber optic State backbone network, beating out foreign firms. BRASSCOM representatives report having several meetings per week with potential investors in the ICT sector from around the world seeking exposure to the Brazilian market through capital investment or setting up commercial operations. All global firms of reference in the ICT industry have robust operations in Brazil.

This project will likely be able to overcome these obstacles. The primary reason for this U.S. ICT firms continued to be a global reference. As a result, the project sponsor already has a strong interest in and experience with U.S. products and can be expected to structure bid tenders in such a way as to ensure that competitive U.S. proposals are given equal consideration.

Development Impact:

ICT Infrastructure for Innovation in Public Service Delivery: The Rio State IT strategy review and data center investments come at critical juncture in Rio State's investments in improving service delivery through ICT. The State has reaped significant rewards through applying ICT to all aspects of governance and e-inclusion, though to date has not reviewed its over-arching strategy: what the cumulative impact of and relationship between State ICT investments will be. Strategy review at this time will ensure that ICT investments made by the State as a whole become more harmonized and rationalized, reducing duplicate investments while securing greater interoperability and scalability. This could save the State tens of millions of dollars.

The Rio State Data Center will be critical information infrastructure for the State of Rio de Janeiro as they develop and deploy solutions for education, health care, safety and security, emergency response, and much more. It will enable Rio city to demonstrate its world-class capabilities while hosting the 2014 World Cup and 2016 Olympic Games.

Impact on the Environment

Data centers can be very power-hungry. The national power grid, however, provides the quality and reliability of electricity that the Rio State data center would require. The costs, however, can be significant. As a result, the State data center will probably have to look seriously at renewable energy sources as a way to reduce operating expenses for the center.

The result may well be a success story in terms of environmental impact. Such a high-profile project could have a strong demonstration effect for the sector and for the country as a whole. The ICT sector could model the potential of renewable energies on a national scale, particularly

as State IT companies of several other Brazilian states operate or plan to invest in State data centers.

Impact on U.S. Labor

ICT is a sector where U.S. firms play a leading global role. The 'high value' inputs into these products such as research & development, or Intellectual Property are made in the U.S. As a result, ICT firms may estimate about 60%-70% U.S. content and origin of their products even when manufacturing takes place in Asia.[3]

This project may have a significant renewable energy component as well. Many renewable energy firms still manufacture in whole or in part in the U.S. It would be possible to pursue the renewable energy aspect of this project featuring globally competitive technologies with total U.S. content surpassing 90%.

As a result of the leadership of U.S. firms in ICT and renewable energy, a very high percentage of the potential several millions of dollars worth of exports generated would credibly go towards creating or funding jobs in the U.S. The proposed technical assistance to PRODERJ is in accordance with U.S. appropriations legislation for Foreign Operations, Export Financing and Related Programs. In particular the proposed technical assistance will not:

- create any financial incentive to a business enterprise currently located in the United States for the purpose of inducing such an enterprise to relocate outside of the Unites States;
- violate any internationally recognized workers rights; or
- expand production of any commodity for export by any country other than the United States.

Qualifications of Key Personnel

Strategy review and data center design tasks supporting Rio State will require a team with strong competencies in Business Process Analysis, data center construction, ICT Applications Engineering, Electrical Engineering, and ICT Strategy Formulation and Implementation. These professional personnel should meet or exceed the following minimum criteria:

[3] With thanks to Cisco Systems.

Project Manager

The Project Manager shall serve as primary liaison with PRODERJ and Rio State, and shall take the lead on coordinating all technical assistance provided under these terms of reference. The Project Manager shall have at least 15 years' progressively more responsible experience coordinating implementation or design of large scale information infrastructure projects. The Project Manager shall have at least a Master's degree in a relevant discipline (e.g. Business, Engineering) and shall read, write, and speak Portuguese at a professional level.

Data Center Design Specialist

The Data Center Design Specialist will take the lead on coordinating all technical assistance related to design of the Rio State data center, and ensuring top-flight quality and usefulness of all deliverables for the needs of Rio State.

The Data Center Design Specialist should hold at least a Bachelor's in a relevant discipline (systems engineering, computer science, electrical engineering) and should have at least 15 years' progressively more responsible experience in the ICT sector, and at least 5 years specifically guiding large, scale information infrastructure projects, with preference given to data center construction.

ICT Applications Engineer

The ICT Applications Engineer will take the lead technical role in gathering and estimating technical requirements for present and future, critical and non-critical IT applications for Rio State, and in assisting Rio State in designing appropriate systems to implement an e-Government platform for the State. In addition the ICT Applications Expert will help prepare technical standards and guidelines for Rio State ICT assets, as well as detailed vendor-neutral technical specifications and equipment lists.

The ICT Applications Engineer should hold at least a Bachelor's degree in a relevant discipline such (e.g. Computer Science, Electrical Engineering), and should have at least 10 years' progressively more responsible experience in determining hardware and software requirements, deploying, and/or managing large scale applications and databases. Alternatively, the ICT Applications Specialist may have a Master's degree in a relevant discipline, and a minimum of 7 years progressively more responsible relevant experience. The ICT Applications Expert will have top-flight knowledge of and demonstrated experience working with a broad range of platforms and technologies relevant to ICT-enabled industry such as:

- business data communications solutions;
- large-scale secure databases;
- large-scale secure web applications ;
- email and Internet services
- IP videoconferencing and telephony, and
- "service-oriented" architectures

- Utilizing cloud-based services

The ICT Applications Engineer shall demonstrate strong knowledge of e-Government solutions and platforms, and shall have sufficient Portuguese proficiency and understanding to conduct structured interviews regarding application design requirements.

Network Engineer

The Network Engineer will take the lead on assessing Rio State's network assets and management practices, and in specifying requirements for network topology; transmission, switching, and routing infrastructure; and network security in support of Rio State Data Center normal production environment as well as business continuity or disaster recovery scenarios.

The Network Engineer shall have at least a Bachelor's degree in a relevant discipline (telecommunications, electrical engineering) and at least 12 years' progressively more responsible experience in designing and deploying large scale, secure Internet Protocol networks, over a diversity of infrastructures, including:

- Dense and course-wave fiber optic networks
- Various wireless platforms potentially including UMTS, CDMA, 802.11 (Wi-Fi), or 802.16 (WiMax)
- Satellite networks

The Network Engineer shall have experience developing networks in support of large-scale "service oriented architecture" enterprise systems, and the ideal candidate will have experience integrating cloud-based services with these enterprise-based systems.

Business Process Re-engineering Specialist

The Business Process Re-engineering Specialist will take the lead on mapping and analyzing Rio State workflows and on developing strategies to improve and automate Rio State business processes for greater economy, efficiency, and effectiveness.

The Business Process Re-engineering Specialist will have at least 5 years' experience leading organizational change initiatives in large complex public and private sector entities to achieve quantifiable results in terms of process improvement, cost savings, or improved service delivery. The Specialist will have direct experience implementing organizational network assessment techniques to guide these change initiatives. The Specialist should have a relevant graduate degree (e.g. Business, Systems Engineering), and shall read, write, and speak Portuguese at a professional level.

ICT Strategy Specialist

The ICT Strategy Specialist will take the lead in facilitating Rio State development and adoption of a unified vision for their e-Government/e-Governance architecture, and reflecting it in strategic goals as well as concrete guidelines and standards.

The ICT Strategy Specialist will have at least 12 years' progressively more responsible experience guiding technology strategy in complex organizations, and demonstrate a strong knowledge of global good practice in information technology strategy in global firms, governments, and other complex organizations. The ideal candidate will have been in a Chief Information Officer role for at least one complex organization.

The ICT Strategy Specialist will have a graduate degree in a relevant discipline (business, computer science, systems engineering) and shall read, write, and speak Portuguese at a professional level.

ICT Finance Specialist

The ICT Finance Specialist will take the lead on identifying and recommending pragmatic financing strategies for the Rio State Data Center and providing Rio State the necessary tools to pursue these strategies.

The Finance Specialist will have a graduate degree in a relevant discipline (Business, Finance) and have at least 10 years' experience creating and implementing successful low-risk investment strategies for public or private clients, as well as assembling project finance packages for large scale infrastructure. The Finance Specialist should have experience working with multilateral lending organizations, development banks, and private banks in a development context, preferably in Latin America, such as the World Bank, International Finance Corporation, the InterAmerican Development Bank, the Brazilian Development Bank, or regional Latin American Banks. Experience with large-scale ICT infrastructure and data centers is particularly desirable, as is experience formulating institutional project finance strategies in the public or private sector.

Electrical Engineer

The Electrical Engineer will take the lead on assessing current and projecting future power requirements, specifying technical requirements for power generation, emergency power, and standby power equipment and installation.

The Electrical Engineer will have at least a Bachelor's degree in electrical engineering and will have at least 7 years' progressively more responsible experience supporting large-scale information infrastructure projects, with preference given to data center construction.

Policy and Regulatory Specialist

The Policy and Regulatory Specialist will take the lead on surveying the legal framework governing Rio State information technology and information infrastructure strategies, including national legislation and national, state, and municipal regulations. The Policy and Regulatory Specialist shall be responsible for identifying all necessary legal and regulatory requirements for construction of the Rio State Data Center including all needed licenses or permits. In addition, the policy and regulatory specialist shall assist PRODERJ in assessing potential public-private partnership modalities within the Brazilian legal framework.

The Policy and Regulatory Specialist shall have a Juris Doctor degree and at least 5 years experience assisting clients with forming commercial vehicles for public and private investment and/or coordinating legal and regulatory aspects of deployment of large-scale infrastructure. The Policy and Regulatory Specialist shall have demonstrated working knowledge of both civil and common legal systems. The legal and regulatory specialist shall be proficient in reading and analyzing Portuguese texts and shall have sufficient Portuguese proficiency and understanding to conduct structured interviews regarding legal and regulatory requirements.

Justification

A technical assistance grant from USTDA has a strong likelihood of resulting in critical information infrastructure enabling new growth and innovation in the public sector service delivery in Rio de Janeiro. This high profile project would create opportunities for U.S. firms to demonstrate technology leadership, while creating an amenable environment for market entry or sustainability for their Brazilian operations. In addition, the project creates opportunities for U.S. renewable energy generation technologies. A successful Rio State data center would provide a tangible model for the role U.S. firms and institutions may play in the 'greening' of Brazilian ICT and the social and economic benefit that could result from it. These interventions are squarely within USTDA's competencies and mandate, making them an ideal partner for the Project Sponsor to build trade relationships with the U.S. and through U.S. institutions.

Professional Qualifications of Key Personnel

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with multilateral lending organizations, development banks, and private banks in a development context, preferably in Latin America, such as the World Bank, International Finance Corporation, the InterAmerican Development Bank, the Brazilian Development Bank, or regional Latin American Banks. Experience with large-scale ICT infrastructure and data centers is particularly desirable, as is experience formulating institutional project finance strategies in the public or private sector.

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The U.S. Firm may assign a single individual to more than one personnel category, provided that the individual meets the minimum qualifications for each category to which they are assigned.

Evaluation Factors

(1) U.S. Firm's Expertise and Relevant Experience (25 Points)

U.S. Firm's demonstrated professional experience in the ICT sector with specific reference to institutional IT strategy development and data center design including engineering, business, and project finance technical assistance to successful large, scale ICT infrastructure projects; demonstrated experience in developing successful project financing packages for large-scale infrastructure projects, preferably in the telecommunications sector; multi-disciplinary telecommunications and ICT sector experience bridging ICT engineering, energy provision, business implementation, and project finance.

(2) U.S. Firm's Work Plan and Approach (20 Points)

U.S. Firm's proposed work plan and approach to the planning, organization, and implementation of technical assistance to PRODERJ and in particular how the U.S. Firm would apply its competencies institutional IT strategy development and data center design in Brazil. Demonstration and understanding of, and responsiveness to, program objectives and soundness of approach; Overall innovative nature of proposed activities and approach to measure, monitor, and evaluate performance and impact; Soundness of approach and methodology.

(3) Availability of Qualified Personnel (25 Points)

Demonstrated qualifications and abilities of each of U.S. Firm's proposed key personnel in terms of the requirements of this Contract and specific roles and responsibilities. Effective management, use and deployment of technical resources; the U.S. Firm should provide (a) detailed resumes for each of the proposed key personnel; (b) examples of relevant work in ICT infrastructure projects, including a succinct statement indicating how these activities are directly relevant to institutional IT strategy development and data center design in Brazil; and (c) not less than two letters of professional references from individuals who have direct and specific knowledge of the U.S. Firm's relevant experience and the information required in the following Questionnaire:

Relevant Experience Questionnaire

Instructions: For each contract provided, respondents will complete the following worksheet.

Company Name: _____

Agency/Customer Name: _____

Point of Contact: _____

Referenced Contract/Project Name: _____

Reference Contract/Project No.: _____

Contract Type:	
Contract Start Date:	
Original Completion Date:	
Estimated/Actual Completion Date:	
Explanation of Delay, if applicable:	
Brief Contract Description (size and scope): **(Use additional pages as required)**	

Contact Information:	**Name/Title:** **Phone Number:** **Email:**
Contract Value:	

(4) Past Performance (20 Points)

The quality of the U.S. Firm's past performance will be used to assess the credibility of the U.S. Firm's proposal for performance of the work specified in this solicitation. In evaluating a U.S. Firm's past performance, it will be relevant whether the U.S. Firm has consistently provided customers and clients with quality services on time and has demonstrated success in achieving results in the areas described in the program description.

(5) Knowledge of Brazil and Latin America (10 Points)

U.S. Firm's experience in, and knowledge, of Brazil and Latin America and its specific relevance to the work that will be required under this Contract.

V. PROPOSED PROJECT WORK PLAN

Project Leader:

Project: Rio State Data Center & Strategy Review

Project Objective: Design a Rio State Data Center in Accordance with State Strategy and Global Good Practice

Global good practices reviewed	Rio State IT Strategy Reviewed	Rio State Data Center Designed	#	Tasks	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8	week 9	week 10	week 11	week 12	week 13	week 14	week 15	week 16	PRODERJ	Project Manager	Data Center Design Specialist	ICT Apps Engineer	Network Engineer	Business Process Specialist	Strategy Specialist	Electrical Engineer	ICT Legal and Regulatory Specialist	Projet Finance Specialist
⊙			1	Desk Study	⊙	⊙	⊙														⊙	⊙	⊙			⊙	⊙			
⊙	⊙		2	Organizational Network Assessment				⊙	⊙	⊙		⊙									⊙	⊙				⊙	⊙			
⊙	⊙		3	State IT Strategy Review				⊙	⊙	⊙		⊙									⊙	⊙	⊙	⊙	⊙	⊙	⊙			
		⊙	4	Inventory critical and non-critical applications					⊙	⊙	⊙	⊙									⊙	⊙	⊙	⊙	⊙	⊙		⊙		
		⊙	5	Requirements projection for critical and non critical applications					⊙	⊙	⊙										⊙	⊙	⊙	⊙	⊙			⊙		
		⊙	6	Project power supply requirements and costs						⊙	⊙	⊙									⊙	⊙	⊙	⊙	⊙			⊙		
		⊙	7	Project cooling requirements and costs							⊙	⊙									⊙	⊙	⊙	⊙	⊙			⊙		
		⊙	8	Project standby power requirements and costs							⊙	⊙									⊙	⊙	⊙	⊙	⊙			⊙		
		⊙	9	Specify fire protection requirements							⊙	⊙									⊙	⊙	⊙	⊙	⊙			⊙		
		⊙	10	Estimate data center size								⊙									⊙	⊙	⊙	⊙	⊙			⊙		
		⊙	11	Location, layout and design of the data center									⊙	⊙							⊙								⊙	
		⊙	12	Legal and regulatory survey									⊙	⊙							⊙	⊙	⊙	⊙	⊙			⊙		
		⊙	13	Develop Business Continuity/Disaster recovery plan								⊙	⊙								⊙	⊙	⊙	⊙	⊙			⊙		
		⊙	14	Estimate total cost of ownership										⊙	⊙						⊙	⊙	⊙	⊙	⊙			⊙	⊙	⊙
		⊙	15	Develop data center implementation plan										⊙	⊙						⊙	⊙	⊙	⊙	⊙			⊙		
		⊙	16	Develop Implementation Finance Plan											⊙	⊙					⊙									⊙
		⊙	17	Develop Guidelines for Contractor Selection											⊙	⊙						⊙	⊙	⊙	⊙			⊙		
		⊙	18	Development Impact Assessment													⊙					⊙	⊙							
		⊙	19	Environmental Impact Assessment													⊙					⊙	⊙				⊙	⊙		
		⊙	20	Final Report																⊙		⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙	⊙

Objectives / Tasks / Target Dates

contractor in Rio de Janeiro

Contacts, Brazil

name	title	Company or Institution	Address	Phone (office)	Phone (mobile	email
Cunha, Pedro Paulo	Diretor Gerente (Arquitetura TI)	Itau-Unibanco	Av. Do Estado, 5533 2. Andar, Sector A. Sao	11 32749663		pedro.cunha@itau-unibanco.com.br
Coelho, Paulo Cesar	Presidente	PRODERJ	Rua da Ajua, 05 22 Andar Rio de Janeiro RJ	(21) 2333-0234		pccoelho@proderj.rj.gov.br
Mastrangelo, Cesar	Chefe da Assessoria de Projetos Especiais	Secrataria de Estado da Casa Civil	Palacio Guanabara, Rua Pinheiro Machado, Predio Anexo 2o Andar,	(55) 21 2334 3670		cmastrangelo@casacivil.rj.gov.br
Fichtner, Regis	Secretario de Estado Chefe da Casa Civil	Secrataria de Estado da Casa Civil	Palacio Guanabara, Rua Pinheiro Machado, Predio Anexo 2o Andar, Laranjeiras, Rio de	(21) 2334-3120		regis@casacivil.rj.gov.br
Cohen, Flavia	Assessora de Comunicacao	PRODERJ	Rua da Ajua, 05 22 Andar Rio de Janeiro RJ	(21) 2333-0237	8596-5798	flaviacohen@proderj.rj.gov.br
Gioia, Jose Coelho	Diretor Executivo	PRODERJ	Rua da Ajua, 05 22 Andar Rio de Janeiro RJ	(21) 2333-0352		jgioia@proderj.rj.gov.br
Braga, Reynaldo	Secretario de Governo	Secretaria de Estado de Governo	Palacio Guanabara, Rua Pinheiro Machado, Predio	(21) 2334-3220		reynaldobraga@segov.rj.gov.br
Ota, Katsumi	Gerente Suporte Redes	Itau-Unibanco	Av. Do Estado, 5533 2. Andar, Sector A. Sao Paulo	(11) 3274 8535		katsumi.ota@itau-unibanco.com.br
Bastos, Artur Vieira	Chefe de Gabinete de Casa Civil	Secrataria de Estado da Casa Civil	Rua Pinheiro Machado, Predio	(21) 2334 3117	(21) 8596-5091	abastos@casacivil.rj.gov.br
Guerra Martins, Sergio Ruy Barbosa	Secretario do Estado	Secretaria de Planejamento e Gestao	A. Erasmo Braga, 118, 13o Andar Rio de Janeiro	55 21 2333		

Asse, Ricardo	Advisor	Brazilian Association of Information Technology and Communication Companies	Rua Funchal, 263 - Conj 151 Vila Olimpia, Sao Paulo	55 11 3053-9108	55 11 8923-6709	ricardo.asse@brasscom.org.br
Mota, Rodrigo	Country Representative	US Trade and Development Agency	Rua Henri Durant, 700 Sao Paulo	55-11-5186-7335		rmota@ustda.gov
Lima, Luiz Ronaldo	Strategy Director, International Business Solutions	Cisco Brazil	Av. Das Americas 700 Citta America 3 Andar Rio de	55 21 2483-6315	55 21 8124-2884	luizlima@cisco.com
Cabot, Ned	Sales Latin America	Cisco U.S.				ncabot@cisco.com
Ananias, Mateus de Franceschi	Marketing & Mercados Internacionais	Brazilian Association of Information Technology and Communication Companies	Rua Funchal, 263 - Conj 151 Vila Olimpia, Sao Paulo	55 11 3053-9118		

ANNEX 3

U.S. TRADE AND DEVELOPMENT AGENCY
Arlington, VA 22209-2131

NATIONALITY, SOURCE, AND ORIGIN REQUIREMENTS

The purpose of USTDA's nationality, source, and origin requirements is to assure the maximum practicable participation of American contractors, technology, equipment and materials in the prefeasibility, feasibility, and implementation stages of a project.

USTDA STANDARD RULE (GRANT AGREEMENT STANDARD LANGUAGE):

Except as USTDA may otherwise agree, each of the following provisions shall apply to the delivery of goods and services funded by USTDA under this Grant Agreement: (a) for professional services, the Contractor must be either a U.S. firm or U.S. individual; (b) the Contractor may use U.S. subcontractors without limitation, but the use of subcontractors from host country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the subcontract; (c) employees of U.S. Contractor or U.S. subcontractor firms responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for implementation of the Study and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Study support (e.g., local lodging, food, and transportation) in host country are not subject to the above restrictions. USTDA will make available further details concerning these standards of eligibility upon request.

NATIONALITY:

1) Rule

Except as USTDA may otherwise agree, the Contractor for USTDA funded activities must be either a U.S. firm or a U.S. individual. Prime contractors may utilize U.S.

subcontractors without limitation, but the use of host country subcontractors is limited to 20% of the USTDA grant amount.

2) Application

Accordingly, only a U.S. firm or U.S. individual may submit proposals on USTDA funded activities. Although those proposals may include subcontracting arrangements with host country firms or individuals for up to 20% of the USTDA grant amount, they may not include subcontracts with third country entities. U.S. firms submitting proposals must ensure that the professional services funded by the USTDA grant, to the extent not subcontracted to host country entities, are supplied by employees of the firm or employees of U.S. subcontractor firms who are U.S. individuals.

Interested U.S. firms and consultants who submit proposals must meet USTDA nationality requirements as of the due date for the submission of proposals and, if selected, must continue to meet such requirements throughout the duration of the USTDA-financed activity. These nationality provisions apply to whatever portion of the Terms of Reference is funded with the USTDA grant.

3) Definitions

A "U.S. individual" is (a) a U.S. citizen, or (b) a non-U.S. citizen lawfully admitted for permanent residence in the U.S. (a green card holder).

A "U.S. firm" is a privately owned firm which is incorporated in the U.S., with its principal place of business in the U.S., and which is either (a) more than 50% owned by U.S. individuals, or (b) has been incorporated in the U.S. for more than three (3) years prior to the issuance date of the request for proposals; has performed similar services in the U.S. for that three (3) year period; employs U.S. citizens in more than half of its permanent full-time positions in the U.S.; and has the existing capability in the U.S. to perform the work in question.

A partnership, organized in the U.S. with its principal place of business in the U.S., may also qualify as a "U.S. firm" as would a joint venture organized or incorporated in the United States consisting entirely of U.S. firms and/or U.S. individuals.

A nonprofit organization, such as an educational institution, foundation, or association may also qualify as a "U.S. firm" if it is incorporated in the United States and managed by a governing body, a majority of whose members are U.S. individuals.

SOURCE AND ORIGIN:

1) Rule

In addition to the nationality requirement stated above, any goods (e.g., equipment and materials) and services related to their shipment (e.g., international transportation and insurance) funded under the USTDA Grant Agreement must have their source and origin in the United States, unless USTDA otherwise agrees. However, necessary purchases of goods and project support services which are unavailable from a U.S. source (e.g., local food, housing and transportation) are eligible without specific USTDA approval.

2) Application

Accordingly, the prime contractor must be able to demonstrate that all goods and services purchased in the host country to carry out the Terms of Reference for a USTDA Grant Agreement that were not of U.S. source and origin were unavailable in the United States.

3) Definitions

"Source" means the country from which shipment is made.

"Origin" means the place of production, through manufacturing, assembly or otherwise.

Questions regarding these nationality, source and origin requirements may be addressed to the USTDA Office of General Counsel.

ANNEX 4

ANNEX 4

GRANT AGREEMENT

This Grant Agreement is entered into between the Government of the United States of America, acting through the U.S. Trade and Development Agency ("USTDA") and the Government of the State of Rio de Janeiro and its Chief of Staff Secretariat "Casa Civil", acting through the Centro de Tecnologia da Informação e Comunicação do Estado do Rio de Janeiro ("Grantee"). USTDA agrees to provide the Grantee under the terms of this Grant Agreement US$675,000 ("USTDA Grant") to fund the cost of goods and services required for the preparation of a technical assistance ("Technical Assistance") on the proposed Rio de Janeiro State Government Data Center and Information Technology Modernization and Integration Project ("Project") in Brazil ("Host Country").

1. USTDA Funding

The funding to be provided under this Grant Agreement shall be used to fund the costs of an Agreement of Understanding to Perform the Technical assistance ("Agreement of Understanding") between the Grantee and the U.S. firm selected by the Grantee ("U.S. Firm") under which the U.S. Firm will perform the Technical Assistance. Payment to the U.S. Firm will be made directly by USTDA on behalf of the Grantee with the USTDA Grant funds provided under this Grant Agreement.

2. Terms of Reference

The Terms of Reference for the Technical Assistance ("Terms of Reference") are attached as Annex I and are hereby made a part of this Grant Agreement. The Technical Assistance will examine the technical, financial, environmental and other critical aspects of the proposed Project. The Terms of Reference shall also be included in the Agreement of Understanding.

3. Standards of Conduct

USTDA and the Grantee recognize the existence of standards of conduct for public officials, and commercial entities, in their respective countries. The parties to this Grant Agreement and the U.S. Firm shall observe these standards, which include not accepting payment of money or anything of value, directly or indirectly, from any person for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the Technical Assistance.

4. Grantee Responsibilities

The Grantee shall undertake its best efforts to provide reasonable support for the U.S. Firm, such as local transportation, office space and secretarial support.

5. **USTDA as Financier**

(A) USTDA Approval of Competitive Selection Procedures

Selection of the U.S. Firm shall be carried out by the Grantee according to its established procedures for the competitive selection of contractors with advance notice of the procurement published online through *Federal Business Opportunities (www.fedbizopps.gov)*. Upon request, the Grantee will submit these contracting procedures and related documents to USTDA for information and/or approval.

(B) USTDA Approval of U.S. Firm Selection

The Grantee shall notify USTDA at the address of record set forth in Article 17 below upon selection of the U.S. Firm to perform the Technical Assistance. Upon approval of this selection by USTDA, the Grantee and the U.S. Firm shall then enter into an Agreement of Understanding. The Grantee shall notify in writing the U.S. firms that submitted unsuccessful proposals to perform the Technical Assistance that they were not selected.

(C) USTDA Approval of the Agreement of Understanding

The Grantee and the U.S. Firm shall enter into the Agreement of Understanding. The Agreement of Understanding, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing. To expedite this approval, the Grantee (or the U.S. Firm on the Grantee's behalf) shall transmit to USTDA, at the address set forth in Article 17 below, a photocopy of an English language version of the signed Agreement of Understanding or a final negotiated draft version of the Agreement of Understanding.

(D) USTDA Not a Party to the Agreement of Understanding

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of the Agreement of Understanding and any amendments thereto, including assignments, the selection of all contractors, the Terms of Reference, the Final Report (as defined in Clause I of Annex II), and any and all documents related to any Agreement of Understanding funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from exercising these approval rights shall be made as a financier in the course of funding the Technical Assistance and shall not be construed as making USTDA a party to the Agreement of Understanding. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the Agreement of Understanding or any sub-agreement, jointly or

separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Grantee or USTDA from asserting any right they might have against the U.S. Firm, or relieve the U.S. Firm of any liability which the U.S. Firm might otherwise have to the Grantee or USTDA.

(E) Grant Agreement Controlling

Regardless of USTDA approval, the rights and obligations of any party to the Agreement of Understanding or any sub-agreement thereunder must be consistent with this Grant Agreement. In the event of any inconsistency between the Grant Agreement and the Agreement of Understanding or any sub-agreement funded by the Grant Agreement, the Grant Agreement shall be controlling.

6. Disbursement Procedures

(A) USTDA Approval of Agreement of Understanding Required

USTDA will make disbursements of USTDA Grant funds directly to the U.S. Firm only after USTDA approves the Agreement of Understanding.

(B) Contractor Invoice Requirements

The Grantee should request disbursement of USTDA Grant funds by USTDA to the U.S. Firm for performance of the Technical Assistance by submitting invoices in accordance with the procedures set forth in the USTDA Mandatory Clauses in Annex II. The Grantee shall not be responsible for any payment to the U.S. Firm under this Grant Agreement.

7. Effective Date

The effective date of this Grant Agreement ("Effective Date") shall be the date of signature by both parties or, if the parties sign on different dates, the date of the last signature.

8. Technical Assistance Schedule

(A) Technical Assistance Completion Date

The completion date for the Technical Assistance, which is January 31, 2013, is the date by which the parties estimate that the Technical Assistance will have been completed.

(B) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Grant Agreement for goods and services which are provided prior to the Effective Date; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date.

9. USTDA Mandatory Clauses

The Agreement of Understanding and any other agreement funded under this Grant Agreement shall include the USTDA mandatory clauses set forth in Annex II. All sub-agreements funded or partially funded with USTDA Grant funds shall include the USTDA mandatory clauses, except for clauses B(1), G, H, I and J.

10. Use of U.S. Carriers

(A) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(B) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

11. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the U.S. Firm must be either a U.S. firm or U.S. individual; (b) the U.S. Firm may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the sub-agreement; (c) employees of the U.S. Firm or U.S. subcontractors responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the Technical Assistance and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Technical Assistance support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

12. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Grantee nor the U.S. Firm will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

13. Cooperation Between Parties and Follow-Up

The parties will cooperate to assure that the purposes of this Grant Agreement are accomplished. For five (5) years following receipt by USTDA of the Final Report, the Grantee agrees to respond to any reasonable inquiries from USTDA about the status of the Project.

14. Implementation Letters

To assist the Grantee in the implementation of the Technical Assistance, USTDA may, from time to time, issue implementation letters that will provide additional information about matters covered by the Grant Agreement. The parties may also use jointly agreed upon implementation letters to confirm and record their mutual understanding of matters covered by the Grant Agreement.

15. Recordkeeping and Audit

The Grantee agrees to maintain books, records and other documents relating to the Technical Assistance and the Grant Agreement adequate to demonstrate implementation of its responsibilities under the Grant Agreement, including the selection of U.S. Firms, receipt and approval of the Agreement of Understanding deliverables, and approval or disapproval of U.S. firm invoices for payment by USTDA. Such books, records, and other documents shall be separately maintained for three (3) years after the date of the final disbursement by USTDA. The Grantee shall afford USTDA or its authorized representatives the opportunity at reasonable times to review books, records and other documents relating to the Technical Assistance and the Grant Agreement.

16. Representation of Parties

For all purposes relevant to this Grant Agreement, the Government of the United States of America will be represented by the U. S. Ambassador to Host Country or USTDA and Grantee will be represented by its President. The parties hereto may, by written notice, designate additional representatives for all purposes under this Grant Agreement.

17. Addresses of Record for Parties

Any notice, request, document or other communication submitted by either party to the other under the Grant Agreement shall be in writing or through a wire or electronic medium which produces a tangible record of the transmission, such as a telegram, cable or facsimile, and will be deemed duly given or sent when delivered to such party at the following:

To: PRODERJ

Rua da Ajuda, n° 5 - andares 3°, 22°, 23° e 24° - Centro
20040-000 Rio de Janeiro, RJ
Brazil

Phone: 011 55 (21) 2333-0304
Fax: 011 55 (21) 2333-0360
Email: pccoelho@proderj.rj.gov.br

To: U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

All such communications shall be in English, unless the parties otherwise agree in writing. In addition, the Grantee shall provide the Commercial Section of the U.S. Embassy in Host Country with a copy of each communication sent to USTDA.

Any communication relating to this Grant Agreement shall include the following fiscal data:

Appropriation No.:	1111/121001
Activity No.:	2011-51017A
Reservation No.:	2011189
Grant No.:	GH201151189

18. Termination

Either party may terminate this Grant Agreement by giving the other party thirty (30) days advance written notice. The termination of this Grant Agreement will end any obligations of the parties to provide financial or other resources for the Technical Assistance, except for payments which they are committed to make pursuant to noncancellable commitments entered into with third parties prior to the written notice of termination.

19. Non-waiver of Rights and Remedies

No delay in exercising any right or remedy accruing to either party in connection with this Grant Agreement shall be construed as a waiver of such right or remedy.

20. U.S. Technology and Equipment

By funding this Technical Assistance, USTDA seeks to promote the project objectives of the Host Country through the use of U.S. technology, goods, and services. In recognition of this purpose, the Grantee agrees that it will allow U.S. suppliers to compete in the procurement of technology, goods and services needed for Project implementation.

[THE REMAINDER OF THIS PAGE IS INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Government of the United States of America and the Grantee, each acting through its duly authorized representative, have caused this Grant Agreement to be signed in the English language in their names and delivered as of the day and year written below. In the event that this Grant Agreement is signed in more than one language, the English language version shall govern.

For the Government of the United States of America

By: Gabrielle Mandel

Gabrielle Mandel
Country Manager
U.S. Trade and Development Agency

Date: 06/30/2011

For the Centro de Tecnologia da Informação e Comunicação do Estado do Rio de Janeiro

By: _____

Sérgio de Oliveira Cabral Santos Filho
Governor
Rio de Janeiro State Government

By: _____

Regis Velasco Fichtner Pereira
State Government Secretary
Casa Civil

By: Paulo Cesar Coelho Ferreira

Paulo Cesar Coelho Ferreira
President
PRODERJ

Date: 06/30/2011

Witnessed:

By: _____

Annex I -- Terms of Reference

Annex II -- USTDA Mandatory Clauses

Annex I

Terms of Reference

Objective

The objective of the Technical Assistance for the Rio de Janeiro State Government Data Center and Information Technology Modernization and Integration Project ("Technical Assistance ") is two-fold. First, it is to review and refine the over-arching technology strategy of the State of Rio de Janeiro to develop a clear, non-technical vision guiding Rio Information and Communication Technology (ICT) investments that will clearly describe how information infrastructure will facilitate continued improvement in the core business processes of Rio as a whole, and specify technical standards that will help make disparate state ICT investments more interoperable and complementary. The second purpose of these terms of reference is to determine the fundamental design requirements, budget, and an implementation plan for the Rio state data center project in light of the refined technology strategy. These strategy and technical design tasks shall be carried out in parallel.

The Technical Assistance tasks are as follows:

Task 1 – Preliminary Analysis

The purpose of this task is to ensure that the U.S. Firm is well-versed in the strategy, targets and policy commitments of the Rio de Janeiro State Government and has begun to define an approach towards refining the Rio state technology strategy in light of best international practice. Immediately upon the start of the Technical Assistance, the U.S firm selected by the Centro de Tecnologia da Informação e Comunicação do Estado do Rio de Janeiro ("U.S. Firm") shall conduct a preliminary analysis surveying:

- Government of Rio de Janeiro state policy commitments and economic development strategies;
- International good practice in information architecture design and change initiatives for complex organizations; and
- International good practice in e-Government and ICT-enabled public services, particularly focusing on cases where large-scale investments in information infrastructure have been undertaken.

The U.S. Firm shall review, at a minimum:

- The Rio de Janeiro state ICT strategy documents, or the ICT strategy documents of Rio state Agencies, secretariats, or offices;

- Existing key Rio state information infrastructure including data centers and public networks;
- Current business research results, culling lessons on development of effective information architecture visions from complex organizations and global firms from business journals (e.g. Sloan Business Review, Harvard Business Review, McKinsey Quarterly, etc.) or researchers of reference; and
- At least two successful large-scale e-Government/e-Governance implementation strategies in developed or large emerging economies that shall be relevant to the Rio state context.

Data provided by the Rio state government will likely be in Portuguese and it will be the U.S. Firm's responsibility to translate the information for its use, if necessary.

Task 1 Deliverables:

Deliverable 1.1: The U.S. Firm shall prepare an **8-10-page report** (excluding appendices and Executive Summary), in Portuguese, summarizing methodology of review and selection of relevant examples, and highlighting approaches to:

- Potentially applicable private sector information architecture strategies;
- Potentially applicable large-scale public sector information architectures and strategies observed in at least two developed or large emerging economies that appear to be strongly relevant to the Rio de Janeiro state context; and
- A set of provisional recommendations for pursuing information architecture development for e-Government/e-Governance in Rio de Janeiro State.

Deliverable 1.2: In addition, the U.S. Firm shall prepare a 15-20 slide (approximately 20 minute) PowerPoint presentation, in Portuguese, for delivery to the Centro de Tecnologia da Informação e Comunicação do Estado do Rio de Janeiro (PRODERJ), Rio de Janeiro State Agencies and any other stakeholders identified by PRODERJ. The presentation shall summarize the methodology and findings of the preliminary analysis and present provisional recommendations for developing an over-arching e-Government/e-Governance architecture for the state of Rio. The PowerPoint presentation shall include all citations and any key discussion points from the preliminary analysis report in the notes section of relevant slides.

All deliverables under Task 1 shall be transmitted to PRODERJ for review and comment before the U.S. Firm travels to Rio de Janeiro.

Task 2: Review and Refine the Over-Arching ICT Strategy for the State of Rio de Janeiro

The purpose of this task is to create a high-level picture of the current business processes and workflow observed by the Rio State Government across all offices, departments and agencies, including internal state government processes as well as points of interface with the general public; and to note the primary ICT infrastructures and applications (e.g. networks, storage, servers, online platforms, desktop applications) currently supporting these processes or services.

The U.S. Firm shall visit offices, departments, and agencies of the state government to develop a map of the workflow and business processes between them, and with the general public, from a transactional perspective (i.e. what products or services are produced in the Rio state operating unit and provided to other operating units or the general public, and what products or services does the operating unit need from other units or the general public to do its work effectively). The U.S. Firm shall visit:

- *Vice-Governadoria do Estado do Rio de Janeiro;*
- *Secretaria de Estado da Casa Civil – CASACIVIL;*
- *Secretaria de Estado de Governo – SEGOV;*
- *Secretaria de Estado de Planejamento e Gestão – SEPLAG;*
- *Secretaria de Estado de Fazenda – SEFAZ;*
- *Secretaria de Desenvolvimento Econômico, Energia, Indústria e Serviços – SEDEIS;*
- *Secretaria de Estado de Obras – SEOBRAS;*
- *Secretaria de Estado de Segurança – SESEG;*
- *Secretaria de Estado de Saúde e Defesa Civil – SESDEC;*
- *Secretaria de Estado de Educação – SEEDUC;*
- *Secretaria de Estado de Ciência e Tecnologia – SECT;*
- *Secretaria de Estado de Habitação – SEH;*
- *Secretaria de Estado de Transportes – SETRANS;*
- *Secretaria de Estado do Ambiente – SEA;*
- *Secretaria de Estado de Agricultura, Pecuária, Pesca e Abastecimento – SEAPPA;*
- *Secretaria de Estado de Trabalho e Renda – SETRAB;*
- *Secretaria de Estado de Cultura – SEC;*
- *Secretaria de Estado de Assistência Social e Direitos Humanos – SEASDH;*
- *Secretaria de Estado de Turismo, Esporte e Lazer - SETE;*
- *Centro de Tecnologia da Informação e Comunicação do Estado do Rio de Janeiro – PRODERJ;*
- *Fundação Escola de Serviço Público do Estado do Rio de Janeiro – FESP;*
- *Empresa de Assistência Técnica e Extensão Rural do Estado do Rio de Janeiro) – EMATER/RIO;*

- *Companhia de Turismo do Estado do Rio de Janeiro) – TURISRIO;*
- *Procuradoria-Geral do Estado do Rio de Janeiro – PGE;*
- *Companhia Estadual de Habitação) – CEHAB;*
- *Instituto de Segurança Pública do Rio de Janeiro - ISP/RJ;*
- *Departamento de Trânsito do Estado do Rio de Janeiro – DETRAN/RJ;*
- *Centro de Educação Superior a Distância do Estado do Rio de Janeiro – CEDER;J*
- *Imprensa Oficial do Estado do Rio de Janeiro - IO/RJ;*
- *Fundação de Apoio à Escola Técnica do Estado do Rio de Janeiro – FAETEC;*
- *Fundo Único de Previdência Social do Estado do Rio de Janeiro – RIOPREVIDENCIA; and*
- *Policia Militar do Estado do Rio de Janeiro – PMERJ.*

The U.S. Firm shall specifically seek to identify common needs across State government offices to access services or data to do their jobs effectively including, at a minimum:

- Information technology infrastructure;
- Desktop applications;
- Web applications;
- Budget or finance services;
- Human resources services;
- Supply chain or procurement services;
- Property or facilities management;
- Document or records management;
- Legal services; and
- Customer interaction/customer relationship management support.

The U.S. Firm shall note specific applications in use by state government staff to do their jobs including, at a minimum:

- Financial management and planning;
- Human resources management;
- Database management and resources;
- Web applications;
- Online portals; and
- Desktop applications.

Task 2 Deliverables:

Deliverable 2.1: The U.S. Firm shall develop, with input from PRODERJ, a standard questionnaire in Portuguese that shall be used during the survey of business processes, applications, and information infrastructure (e.g. networks,

data centers) of Rio state operating units. Questionnaires that have been filled out shall be appended to the final report.

Deliverable 2.2: The U.S. Firm shall prepare a comprehensive diagram or series of diagrams, in English, mapping current high level business processes within the state government, and between government and the public, from a transactional perspective. The U.S. Firm shall summarize and highlight opportunities for sharing processes, services, and data across state government operating units that are illustrated by the diagrams.

Task 3: Determine Rio State Data Center Engineering Requirements, Total Cost of Ownership, and Implementation Plan

The purpose of this task is to specify comprehensive design and engineering requirements, a budget, and an implementation plan for construction of Rio State data center in light of a refined technology strategy and detailed understanding of Rio State Government business processes and e-Government architecture vision.

Sub-Task 3.1: Inventory of Requirements for Supporting Critical and Non-Critical Rio State Applications

The purpose of this sub-task is to ensure that all critical and non-critical Rio State business processes that are supported by information technology solutions and applications are adequately supported over the expected useful life of the Rio State data center, and to help the state of Rio identify opportunities for cost savings by differentiating between requirements for critical and non-critical applications, and in-house versus third party services.

3.1.1: Comprehensive Inventory of Critical and Non-Critical Rio State Applications

The U.S. Firm shall prepare a summary inventory of applications in use by Rio State and specify the:

- storage;
- servers;
- backup power;
- network capacity; and
- any other technical requirements necessary for proper support and functioning of these Rio state applications.

The U.S. Firm shall, with government input, specify which applications are critical for supporting Rio state business processes, and which applications are less critical.

3.1.2: Project Required Capacity and Growth of Critical and Non-critical Applications Supported by the Data Center

Building on the applications inventory and requirements specified under sub-task 3.1.1, and in light of the Rio state technology strategy, the U.S. Firm shall project required storage, power, backup power, servers, network capacity and any other technical requirements necessary for proper support and functioning of critical Rio State applications over the projected usable life of the data center infrastructure.

In addition the U.S. Firm shall project, with state government input, the requirements for supporting non-critical applications that may require less investment in backup power, network capacity, computing power, or other resources; and shall suggest strategies for supporting these applications more economically than the critical applications (i.e., using the current PRODERJ data center assets).

3.1.3: Outline Capital and Operating Cost Implications of a Minimum of Three Options for Supporting Critical and Non-critical Applications to be Supported by the Data Center

The U.S. Firm shall investigate and detail the capital and operating cost implications of three options for supporting critical and non critical applications including, at a minimum:

- Treating all applications as "critical, in-house" applications that will be supported to the highest possible degree of performance and reliability by the Rio state data center;
- Differentiating between "critical" and "non-critical" applications that will be supported "in-house" by the Rio state data center;

The capital and operating cost analysis for these options shall examine, at a minimum:

- Servers and server racks;
- Storage assets;
- Switches and routers;
- Network capacity;
- Power supply and control;
- Standby power;
- Computing assets;
- Cooling requirements;
- Software and licenses; and
- Network operations center requirements.

Sub-Task 3.1 Deliverables:

Deliverable 3.1.1.: The U.S. Firm shall provide an inventory of critical and non-critical applications, and of current requirements for supporting critical and non-critical Rio state ICT applications, including power supply, backup power, data storage, network capacity, servers, computing power, and any other technical requirements to support these applications.

Deliverable 3.1.2: The U.S. Firm shall provide a projection by application, and in light of Rio State strategy, of the expected future requirements for supporting critical and non-critical Rio state ICT applications including power supply, backup power, data storage, network capacity, servers, computing power, and any other technical requirements that will be required to support critical and non-critical applications over the projected life of the Rio State data center.

Deliverable 3.1.3: The U.S. Firm shall provide a spreadsheet model capturing and comparing capital and operating costs of at least three scenarios for supporting "critical" or "non-critical" Rio state applications over the useful life of the data center.

Sub-Task 3.2: Estimate and Project Data Center Power Supply Requirements and Cost

The purpose of this sub-task is to estimate over-all power supply requirements for the projected life of the Rio state data center, and to help Rio state evaluate and choose the right power supply options for its strategy and budget.

Building on the inventory and projections made under sub-task 3.1, the U.S. Firm shall consolidate current and projected future power supply requirements for critical and non-critical applications to estimate total power requirements for the Rio state data center over its projected useful life. The U.S. Firm shall consider, at a minimum:

- Critical loads for server and storage equipment;
- The loads of other equipment located in the data center such as switches, routers, and computers;
- Future loads in the data center based on Rio state's expected future needs;
- Other power loads associated with the data center, such as lighting, cooling, standby power, and generators; and
- Mean time to repair for any critical power supply solutions.

The U.S. Firm, with Government inputs, shall validate these estimates and projections through consultations with, at a minimum:

- Data center personnel (system and network administrators) to estimate the power requirements for all devices located in the data center;
- The power requirements of heating and cooling systems;
- Rio state personnel and stakeholders who can aid in determining future requirements;
- An electrical engineer; and
- The power utility company that will supply the data center.

The U.S. Firm shall estimate total cost of power supply over the useful life of the infrastructure, based on assumptions these personnel and resource people consider to be reasonable.

Sub-Task 3.2 Deliverables:

Deliverable 3.2.1: The U.S. Firm shall provide an estimate, by quarter, of projected power supply requirements for the Rio state data center over its expected useful life.

Deliverable 3.2.2: The U.S. Firm shall provide an estimate, by quarter, of projected power costs over the expected useful life of the Rio State data center.

Deliverable 3.2.3: The U.S. Firm shall provide a document specifying technical requirements that an emergency generator must fulfill.

Deliverable 3.2.4: The U.S. Firm shall provide a schematic diagram, in English, describing, at a minimum, the recommended power supply installation including utility power, emergency generator power, a sub-station, and power distribution.

Sub-Task 3.3: Specify and Project Data Center Cooling Requirements and Cost

The purpose of this sub-task is to estimate over-all cooling requirements for the projected life of the Rio state data center, and to help Rio state evaluate and choose the right equipment options for its strategy and budget.

Building on the inventory and projections made under sub-task 3.1, the U.S. Firm shall consolidate current and projected future cooling requirements for critical and non-critical applications to estimate total cooling requirements for the Rio state data center over its projected useful life.

The U.S. Firm shall consider, at a minimum, the heat output from:

- Servers and storage devices;
- Other IT equipment including routers, switches and computers;
- Projected future equipment;
- The standby power equipment;
- Power distribution systems;
- Lighting appliances;
- Redundant cooling capacity of business continuity systems; and
- Personnel working in the data center.

The U.S. Firm shall validate these projections through consultations with, at a minimum:

- Current data center and IT personnel;
- A mechanical engineer experienced in the design, installation and testing of heating and cooling systems for data centers, as well as the power requirements of these systems; and
- 2-3 cooling system vendors to detail the potential equipment (e.g. air cooled versus water cooled systems), installation costs, and power consumption needed to meet the cooling requirements of the data center.

Sub-Task 3.3 Deliverables:

Deliverable 3.3.1: The U.S. Firm shall provide an estimate, by year, of projected cooling requirements for the Rio state data center over its expected useful life.

Deliverable 3.3.2: The U.S. Firm shall provide an estimate, by year, of projected cooling equipment capital and operating costs over the expected useful life of the Rio state data center, comparing the expected cost of ownership of alternative cooling options (e.g. air cooled versus water-cooled systems) over the expected useful life of the data center.

Sub-Task 3.4: Specify Standby Power Requirements

The purpose of this sub-task is to define and estimate over-all standby power requirements for the Rio State Data Center, and to help Rio state evaluate and choose the right equipment options for its strategy and budget.

Based on Rio state's technology strategy, the U.S. Firm shall, with Government input, estimate the standby power requirements for the Rio state data center. The U.S. Firm, with Government input, shall specify what criteria will be used in determining standby power requirements (e.g. until an emergency generator can be started, until servers and other computing assets can be shut down safely, etc.)

The standby power requirements estimates shall be based on an understanding of Rio state technology strategy and will reflect, at a minimum:

- Critical nature of key applications and their availability;
- Redundant standby power capabilities for business continuity;
- Rio state's tolerance for risk tolerance;
- Power requirements for servers and equipment;
- Cooling requirements;
- Future power and cooling requirements;
- Emergency lighting;
- Physical security and access to the data center; and
- Mean time to repair standby power solutions.

The U.S. Firm shall validate standby power estimates with, at a minimum:

- Rio state stakeholders to determine risk tolerance;
- IT staff;
- An electrical engineer; and
- Vendors who can outline equipment options and costs for standby power devices such as UPS, generators, or flywheel technologies.

Sub-Task 3.4 Deliverables:

Deliverable 3.4.1: The U.S. Firm shall provide an estimate, by year, of projected standby power requirements for the Rio state data center over its expected useful life.

Deliverable 3.4.2: The U.S. Firm shall provide an estimate, by year, of projected standby power capital equipment and operating costs over the expected useful life of the Rio state data center, comparing the expected total cost of ownership of alternative standby power options (e.g. batteries versus flywheels).

Sub-Task 3.5: Specify Fire Protection Requirements

The purpose of this sub-task is to specify fire protection requirements to ensure safety of personnel, protection of critical equipment, and continuity of data center operations in the event of a fire.

The U.S. Firm shall specify, with Government input, requirements for the fire protection systems for the data center including, at a minimum:

- Smoke and heat detection systems;
- Notification or alarm systems;
- Power-off systems for emergencies;
- Fire suppression systems (e.g. sprinklers or fire retardant agents); and
- Fire extinguishers.

In specifying these requirements, the U.S. Firm shall consult, at a minimum:

- State and Federal regulations and building codes relevant to fire protection;
- Research into global good practice for data center fire protection; and
- Vendors providing data center fire protection products and systems to determine the equipment options and costs.

Sub-Task 3.5 Deliverable:

The U.S. Firm shall provide a detailed recommendation of fire protection system requirements including recommended equipment, locations, and cost of deployment over the expected useful life of the data center.

Sub-Task 3.6: Estimate Data Center Size

The purpose of this sub-task is to estimate the size of the data center in accordance with present and future requirements, in light of the Rio state technology strategy and budget.

The U.S. Firm shall estimate the total amount of floor space required for the data center, considering, at a minimum, space for:

- Information infrastructure assets;
- Power, standby power, and cooling assets;
- Employee workspace;
- Network management and control center space;
- Ducting and cabling;
- Entrance and exit space (for people, vehicles, ducts or cables); and
- Redundant power, cooling, storage, computing or other assets required for business continuity.

The U.S. Firm shall consult, at a minimum:

- Rio state IT personnel; and
- Rio state building or facilities managers.

Sub-Task 3.6 Deliverable:

The U.S. Firm shall provide a calculation and summary recommendation of total minimum floor space required for the expected useful life of the data center.

Sub-Task 3.7: Specify Requirements for Physical Location, Layout and Design

The purpose of this task is to determine optimal allocation of data center space to facilitate workflow and ensure adequate space for present and future data center assets in light of Rio State technology strategy and budget.

Building on requirements gathered and refined under sub-tasks C.1-C.6, the U.S. Firm shall develop, with Rio State Government input, a model layout of the data center to house present and future computing, power, cooling, fire protection, standby power, and all other information infrastructure assets. The Contactor shall consider, at a minimum:

- Workflow within the data center facility;
- Physical security;
- Location of computing and storage assets;
- Location of emergency power supply assets;
- Location of standby power assets;
- Location of cooling system assets;
- Location of network management and control center space;
- Most efficient paths for ducting and cabling; and
- Entrance and exit (for people, vehicles, ducts or cables).

The Contactor shall consult, at a minimum:

- Current data center personnel; and
- Rio state building or facilities managers.

Sub-Task 3.7 Deliverable:

A diagram or series of diagrams, in English, describing the recommended layout of the data center, embodying recommendations for total physical space, enhancing physical security, observing the most efficient pathways for cabling and cooling systems, and facilitating workflow in the data center facility.

Sub-Task 3.8: Legal and Regulatory Survey

The purpose of this task is to identify the over-arching policy and regulatory parameters framing Rio de Janeiro state ICT strategy and infrastructure investments. Working from the applied understanding of best practices for large scale public ICT infrastructure including networks, data centers, and web platforms, the U.S. Firm shall, with Government input, survey the legal and regulatory environment of Rio State (PRODERJ may suggest specific aspects of IT and telecommunications legislation and regulatory code, in addition to Rio State and Municipal regulations, to review), in particular identifying strategies to:

- Identify necessary permits or licenses required for Rio state data center, potentially including such permits as those for radio electric spectrum, right-of-way, or power generation;

- assess viability of innovative financing strategies that may include public-private partnerships investments including potential financial or tax incentives; and

- Encourage innovation through financial and non-financial measures.

Sub-Task 3.8 Deliverable: The U.S. Firm shall produce a Legal and Regulatory Survey in Portuguese of all relevant aspects of the policy and regulatory environment for building and financing the Rio State Data Center. The review may include: securing necessary licenses and clearances suggested by the infrastructure planning (e.g. radio electric spectrum, right of way, power generation;) and modalities of potential public-private partnerships for building the Rio state data center within the legal and regulatory environment of Brazil and Rio state. The findings of this survey shall be summarized in English for the Final Report.

Sub-Task 3.9: Business Continuity and Disaster Recovery Plan

The purpose of this task is to integrate business continuity and disaster recovery considerations at the design phase of the Rio state data center, and to ensure that these are reflected in a rigorous and effective Business Continuity and Disaster Recovery Plan. The U.S. Firm shall, with Government input, identify applications, hardware, software, IT support staff, and networks (local, wide area, "storage area") that support critical Rio state business functions.

The U.S. Firm shall, with Government input, develop a plan to capture a complete replica—at least daily—of, at a minimum:

- Operating systems for critical applications, including updates or patches;
- Critical applications in the environment, including any updates or patches; and
- All critical data.

The U.S. Firm shall, with Government input, specify backup hardware and design these backup systems so as to ensure instantaneous access to this replica.

The U.S. Firm shall, with Government input, develop written, step-by-step documentation on how to recover the replica on backup hardware.

The U.S. Firm shall, with Government input, develop a testing plan and define the frequency of backup tests to be conducted during normal operation of the Rio State Data Center.

The U.S. Firm shall, with Government input, define locations used for storing replicas of the Rio State Data Center, considering in particular how to diversify among types of potential threat to the Rio State digital assets (e.g. different potential for natural disasters among backup sites used).

The U.S. Firm shall, with Government input, identify redundant or alternative options for key aspects of maintaining Data Center operation, including, at a minimum:

- IT Staff for emergency operation;
- Data transmission routes;
- Electrical power sources;
- Air conditioning;
- Mean time to repair critical power, transmission, computing, cooling or other critical equipment;
- "Fail over" requirements for Servers supporting critical Rio State applications;
- "Fail over" requirements for storage supporting critical Rio State applications; and
- Viability of utilizing private sector "cloud computing" services for additional emergency redundancy (within the Rio state legal and regulatory framework).

The U.S. Firm shall, with Government input, outline a topology of the "storage area network," ensuring maximum availability of data assets to key applications, including potential links to redundant storage at other Rio State data centers.

Deliverable 3.9.1: The U.S. Firm shall provide a "storage area network" topology, including the IT assets of other Rio State entities for critical backup to and from the Rio State Data Center.

Deliverable 3.9.2: The U.S. Firm shall develop, with Government input, a Business Continuity and Disaster Recovery Plan that shall include, at minimum, redundancy of and key steps to restore:

- Communications infrastructure;
- Power infrastructure;
- Cooling infrastructure;
- Location of disaster recovery IT assets;
- Operation of potential disaster recovery site(s);
- Performance expectations for critical Rio State applications during an emergency;
- Data protection (including backups of disaster recovery site);
- Shut-down procedures for critical equipment;
- Required IT staff and availability for business continuity or disaster recovery emergencies;
- Availability of documentation for key equipment; and
- Access to the business continuity and disaster recovery plan itself.

Sub-Task 3.10 Evaluate Total Cost of Ownership of the Rio State Data Center

The purpose of this task is to demonstrate the impact of choices in computing, storage, power supply, standby power, cooling, fire protection, and data center size and layout on the total cost of ownership of the Rio State data center over its useful life, and to provide decision support to Rio State as it finalizes its data center investment decisions.

The U.S. Firm shall prepare a comprehensive spreadsheet model that captures options examined under sub-tasks 3.1-3.9 including, at a minimum:

- Water cooling versus air cooling systems;
- Battery standby power versus flywheel standby power;
- Supporting all applications as critical, versus treating only some applications as critical; and
- To detail the capital, operating, and power supply cost implications of each critical data center investment option and its impact on the Total Cost of Ownership of the Rio State data center over its expected useful life.

The spreadsheet model prepared by the U.S. Firm, with Government input, shall examine, at a minimum:

- Operating expenses;
- Maintenance expenses;
- Capital costs for critical equipment; and
- Estimated cost to build the data center.

The U.S. Firm shall, with Government input, make recommendations on final design and investment choices in light of the Rio state budget and IT development strategy.

Sub-Task 3.10 Deliverables:

Deliverable 3.10.1: The U.S. Firm shall develop a comprehensive spreadsheet model demonstrating the expected impact of critical design and investment decisions examined under tasks 3.1-3.7 on the Total Cost of Ownership of the Rio State data center, over is expected useful life.

Deliverable 3.10.2: The U.S. Firm shall provide PRODERJ with a final Rio state data center budget reflecting Total Cost of Ownership based on final design and investment choices validated by Rio state government.

Sub-Task 3.11 Develop Implementation Plan for the Rio State data center

The U.S. Firm shall, with Government input, outline a comprehensive project implementation plan for the construction of the Rio State data center.

The U.S. Firm shall prepare, with Government input, vendor-neutral bills of materials for equipment required for implementing recommendations under tasks 3.1-3.7, accompanied by the design requirements that key equipment are intended to meet.

The U.S. Firm shall prepare, with Government input, final diagrams, in English, corresponding to final design decisions of the physical layout of the data center, including, at a minimum:

- Data storage;
- Computing assets;
- Power supply;
- Backup power;
- Standby power;
- Space for sub-flooring, ducts and cables;
- Cooling system;
- Network operations center; and
- Employee workspaces.

Sub-Task 3.11 Deliverables:

Deliverable 3.11.1: The U.S. Firm shall develop a series of Gantt charts showing key project milestones and estimated project timelines for key aspects of the Rio state data center, as well as for critical phases (e.g. construction, equipment purchase, installation, migration of Rio state information assets, etc.)

Deliverable 3.11.2: The U.S. Firm shall develop vendor-neutral bills of materials for all equipment to be procured for the Rio state data center, including the engineering requirements the equipment will address.

Deliverable 3.11.3: The U.S. Firm shall provide PRODERJ with diagrams, in English, specifying the physical layout of the data center and installation of ducts and cables, storage assets, computing assets, cooling systems, power supply, backup power, standby power, employee workspace, and network operations center.

Sub-Task 3.12 Implementation Finance Plan for Rio State Data Center

The purpose of this task is to finalize a project implementation finance plan for making the Rio State Data Center a reality. The U.S. Firm shall assess the viability of project financing strategies involving finance institutions including, at a minimum:

- the State of Rio de Janeiro;
- the InterAmerican Development Bank;
- the Development Bank of Brazil; and
- Private Banks.

The U.S. Firm shall, with Government input, assess the viability of one or more public-private partnerships for the construction or operation of the Rio state data center, which may include:

- Operation of some aspect of the Rio state data center or government platform in partnership with private firms; or

- Potential involvement of private firms in investing in construction of Rio State Data Center, negotiating a rate of return on this investment with Rio State.

Sub-Task 3.12 Deliverables:

Deliverable 3.12.1 The U.S. Firm shall produce a comprehensive spreadsheet model that captures and integrates the findings of sub-Tasks C.1-C.10, including Total Cost of Ownership and a finalized implementation budget, to finalize an **Implementation Finance Plan** that weighs these capital and operating costs in relation to different Rio State budget scenarios over the expected useful life of the infrastructure.

Deliverable 3.12.2 The U.S. Firm shall prepare a written assessment of potential financing strategies including Rio State, the Brazilian Development Bank, the InterAmerican Development Bank, private lending institutions, and public-private partnerships.

The Sub-Task 3.12 Deliverables shall be included in the Final Report.

Sub-Task 3.13 Specify Guidelines for Selecting Data Center Construction Contractors

The purpose of this sub-task is to specify critical selection criteria for data center construction U.S. Firms.

The U.S. Firm shall, with Government input, outline criteria for evaluating data center construction contractors including, at a minimum:

- Experience constructing data centers of similar size and scope;
- Certifications in power use efficiency methodologies; and

- Demonstrated experience applying project management methodologies for successful construction of information infrastructure.

Deliverables Sub-Task 3.13

Deliverable 3.13.1: The U.S. Firm shall prepare a standardized interview questionnaire developed in Portuguese to help assess potential Contractors' experience, including a scoring system for potential Contractors' answers.

Deliverable 3.13.2: The U.S. Firm shall prepare a checklist for potential Contractors' references.

Task 4: Development Impact Assessment

The U.S. Firm shall conduct a development impact assessment detailing the development impact factors of the Project and provide a review of the Project's potential beneficial effects on the country. This analysis shall focus on the immediate impact that is likely after the technical assistance is provided. The U.S. Firm shall specifically address each of the following categories:

Market-Oriented Reform: The U.S. Firm shall provide a description of any regulation, laws, or institutional changes that are recommended and the effect they would have if implemented;

Infrastructure: The U.S. Firm shall provide a brief synopsis of the infrastructure impact specifying, for example, improvements in physical infrastructure (including telecommunications and power generation infrastructure, for example, total projected transition to shared telecommunications infrastructure) that would result from the Project. The U.S. Firm shall discuss the scale of construction/installation expected and comment on the capabilities of any recommended infrastructure improvements;

Capacity Building: The U.S. Firm shall assess the number and type of local job positions that would be needed to construct and operate the proposed energy optimization solutions, as well as the number of personnel who would require and receive training and describe such potential training program(s). The U.S. Firm shall estimate the number and type of jobs that would be created during the installation/construction phase if the U.S. Firm's recommendations are implemented distinguishing between temporary construction jobs and the those positions that would be created or sustained once construction is complete (or the number of jobs that would be lost due to labor-saving technology);

Technology Transfer and Productivity Enhancement: The U.S. Firm shall provide a description of any advanced technologies that would be utilized as a result of the project. A description of any efficiency that would be gained should be noted and any commercial contracts for licensing new technology that are recommended should be discussed; and

Other: The U.S. Firm shall describe any other developmental impacts or benefits that would result from the project, for example, follow-on or replication projects, safer workplace, enhanced good governance or improved financial revenue flows to Rio de Janeiro State.

Task 5: Preliminary Environmental Analysis

The U.S. Firm shall conduct a preliminary environmental impact study for the implementation of the Project with reference to local requirements and multi-lateral lending agencies (such as the World Bank). This review shall identify potential negative impacts of the Project. The U.S Firm shall briefly discuss the extent to which potential negative impacts can be mitigated, and develop plans for full environmental impact assessment or other studies in anticipation of the Project moving forward to the implementation stage, if necessary. In addition, the environmental analysis should also include a discussion of any legal issues that would impact the Project's viability or ability to move forward.

Task 6: Final Report

The U.S. Firm shall prepare and provide a comprehensive Final Report to PRODERJ, which shall contain the key findings, recommendations and conclusions of the Technical Assistance, and shall incorporate all other documents and/or reports provided pursuant to Tasks 1 through 5 above. The U.S. Firm shall identify the availability of potential U.S. sources of supply and prepare a U.S. supplier list which shall outline potential U.S. sources for procurement of goods and services necessary to develop the Rio State Data Center Project. The list shall include business name, point of contact, address, telephone and fax numbers for each commercial source, as well as a general description of products and services that may be procured

The U.S. Firm shall ensure that the Final Report is submitted in accordance with Clause I of Annex II of the Grant Agreement. The Final Report shall be a substantive and comprehensive report of work performed to carry out all of the tasks set forth in these Terms of Reference and shall include, among other things, an Executive Summary and all deliverables. Each task of these Terms of Reference shall form a separate chapter of the Final Report.

The U.S. Firm shall provide PRODERJ and USTDA with both the public and confidential versions of the Final Report in English. The preliminary analysis, PowerPoint presentation and questionnaires, may be left in Portuguese. The U.S. Firm shall prepare and provide to PRODERJ, USTDA and the U.S. Consulate in Sao Paulo, a

Public Version of the Final Report on CD-ROM. The CD-ROM version of the report shall include:

- Adobe Acrobat readable copies of all documents;
- Source files for all drawings in AutoCAD or Visio format; and
- Source files for all documents in MS Office 2000 or later format

Notes:

(1) The U.S. Firm is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of these Terms of Reference.

(2) The U.S. Firm and PRODERJ shall be careful to ensure that the public version of the Final Report contains no security or confidential information.

(3) PRODERJ and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.

Annex II

USTDA Mandatory Agreement of Understanding Clauses

A. USTDA Mandatory Clauses Controlling

The parties to this Agreement of Understanding to Perform the Technical assistance ("Agreement of Understanding") acknowledge that this Agreement of Understanding is funded in whole or in part by the U.S. Trade and Development Agency ("USTDA") under the Grant Agreement between the Government of the United States of America acting through USTDA and the Centro de Tecnologia da Informação e Comunicação do Estado do Rio de Janeiro ("Client"), dated _____ ("Grant Agreement"). The Client has selected _____ ("U.S. Firm") to perform the Technical assistance ("Technical Assistance") for the Rio de Janeiro State Government Data Center and Information Technology Modernization and Integration Project ("Project") in Brazil ("Host Country"). Notwithstanding any other provisions of this Agreement of Understanding, the following USTDA Mandatory Agreement of Understanding Clauses shall govern. All sub-agreements entered into by the U.S. Firm funded or partially funded with USTDA Grant funds shall include these USTDA Mandatory Agreement of Understanding Clauses, except for clauses B(1), G, H, I and J. In addition, in the event of any inconsistency between the Grant Agreement and the Agreement of Understanding or sub-agreement thereunder, the Grant Agreement shall be controlling.

B. USTDA as Financier

(1) USTDA Approval of Agreement of Understanding

All agreements of understanding funded under the Grant Agreement, and any amendments thereto, including assignments and changes in the Terms of Reference, must be approved by USTDA in writing in order to be effective with respect to the expenditure of USTDA Grant funds. USTDA will not authorize the disbursement of USTDA Grant funds until the Agreement of Understanding has been formally approved by USTDA or until the Agreement of Understanding conforms to modifications required by USTDA during the Agreement of Understanding review process.

(2) USTDA Not a Party to the Agreement of Understanding

It is understood by the parties that USTDA has reserved certain rights such as, but not limited to, the right to approve the terms of this Agreement of Understanding and amendments thereto, including assignments, the selection of all U.S. Firms, the Terms of Reference, the Final Report, and any and all documents related to any Agreement of Understanding funded under the Grant Agreement. The parties hereto further understand and agree that USTDA, in reserving any or all of the foregoing approval rights, has acted solely as a financing entity to assure the proper use of United States Government funds, and that any decision by USTDA to exercise or refrain from

exercising these approval rights shall be made as a financier in the course of financing the Technical Assistance and shall not be construed as making USTDA a party to the Agreement of Understanding. The parties hereto understand and agree that USTDA may, from time to time, exercise the foregoing approval rights, or discuss matters related to these rights and the Project with the parties to the Agreement of Understanding or any sub-agreement, jointly or separately, without thereby incurring any responsibility or liability to such parties. Any approval or failure to approve by USTDA shall not bar the Client or USTDA from asserting any right they might have against the U.S. Firm, or relieve the U.S. Firm of any liability which the U.S. Firm might otherwise have to the Client or USTDA.

C. Nationality, Source and Origin

Except as USTDA may otherwise agree, the following provisions shall govern the delivery of goods and services funded by USTDA under the Grant Agreement: (a) for professional services, the U.S. Firm must be either a U.S. firm or U.S. individual; (b) the U.S. Firm may use U.S. subcontractors without limitation, but the use of subcontractors from Host Country may not exceed twenty percent (20%) of the USTDA Grant amount and may only be used for specific services from the Terms of Reference identified in the sub-agreement; (c) employees of the U.S. Firm or U.S. subcontractors responsible for professional services shall be U.S. citizens or non-U.S. citizens lawfully admitted for permanent residence in the U.S.; (d) goods purchased for performance of the Technical Assistance and associated delivery services (e.g., international transportation and insurance) must have their nationality, source and origin in the United States; and (e) goods and services incidental to Technical Assistance support (e.g., local lodging, food, and transportation) in Host Country are not subject to the above restrictions. USTDA will make available further details concerning these provisions upon request.

D. Recordkeeping and Audit

The U.S. Firm and subcontractors funded under the Grant Agreement shall maintain, in accordance with generally accepted accounting procedures, books, records and other documents sufficient to reflect properly all transactions under or in connection with the Agreement of Understanding. These books, records and other documents shall clearly identify and track the use and expenditure of USTDA funds separately from other funding sources. Such books, records and documents shall be maintained during the Agreement of Understanding term and for a period of three (3) years after final disbursement by USTDA. The U.S. Firm and subcontractors shall afford USTDA, or its authorized representatives, the opportunity at reasonable times for inspection and audit of such books, records and other documentation.

E. U.S. Carriers

(1) Air

Transportation by air of persons or property funded under the Grant Agreement shall be on U.S. flag carriers in accordance with the Fly America Act, 49 U.S.C. 40118, to the extent service by such carriers is available, as provided under applicable U.S. Government regulations.

(2) Marine

Transportation by sea of property funded under the Grant Agreement shall be on U.S. carriers in accordance with U.S. cargo preference law.

F. Workman's Compensation Insurance

The U.S. Firm shall provide adequate Workman's Compensation Insurance coverage for work performed under this Agreement of Understanding.

G. Reporting Requirements

The U.S. Firm shall advise USTDA by letter as to the status of the Project on March 1st annually for a period of two (2) years after completion of the Technical Assistance. In addition, if at any time the U.S. Firm receives follow-on work from the Client, the U.S. Firm shall so notify USTDA and designate the U.S. Firm's contact point including name, telephone and fax number. Since this information may be made publicly available by USTDA, any information which is confidential shall be designated as such by the U.S. Firm and provided separately to USTDA. USTDA will maintain the confidentiality of such information in accordance with applicable law.

H. Disbursement Procedures

(1) USTDA Approval of Agreement of Understanding

Disbursement of Grant funds will be made only after USTDA approval of this Agreement of Understanding. To make this review in a timely fashion, USTDA must receive from either the Client or the U.S. Firm a photocopy of an English language version of a signed Agreement of Understanding or a final negotiated draft version to the attention of the General Counsel's office at USTDA's address listed in Clause M below.

(2) Payment Schedule Requirements

A payment schedule for disbursement of Grant funds to the U.S. Firm shall be included in this Agreement of Understanding. Such payment schedule must conform to the following USTDA requirements: (1) up to twenty percent (20%) of the total USTDA Grant amount may be used as a mobilization payment; (2) all other payments, with the exception of the final payment, shall be based upon Agreement of Understanding performance milestones; and (3) the final payment may be no less than fifteen percent (15%) of the total USTDA Grant amount, payable upon receipt by USTDA of an approved Final Report in accordance with the specifications and quantities set forth in Clause I below. Invoicing procedures for all payments are described below.

(3) U.S. Firm Invoice Requirements

USTDA will make all disbursements of USTDA Grant funds directly to the U.S. Firm. The U.S. Firm must provide USTDA with an ACH Vendor Enrollment Form (available from USTDA) with the first invoice. The Client shall request disbursement of funds by USTDA to the U.S. Firm for performance of the contract by submitting the following to USTDA:

(a) U.S. Firm's Invoice

The U.S. Firm's invoice shall include reference to an item listed in the Agreement of Understanding payment schedule, the requested payment amount, and an appropriate certification by the U.S. Firm, as follows:

(i) For a mobilization payment (if any):

"As a condition for this mobilization payment, the U.S. Firm certifies that it will perform all work in accordance with the terms of its Agreement of Understanding with the Client. To the extent that the U.S. Firm does not comply with the terms and conditions of the Agreement of Understanding, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA. "

(ii) For Agreement of Understanding performance milestone payments:

"The U.S. Firm has performed the work described in this invoice in accordance with the terms of its Agreement of Understanding with the Client and is entitled to payment thereunder. To the extent the U.S. Firm has not complied with the terms and conditions of the Agreement of Understanding, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(iii) For final payment:

"The U.S. Firm has performed the work described in this invoice in accordance with the terms of its Agreement of Understanding with the Client and is entitled to payment thereunder. Specifically, the U.S. Firm has submitted the Final Report to the Client, as required by the Agreement of Understanding, and received the Client's approval of the Final Report. To the extent the U.S. Firm has not complied with the terms and conditions of the Agreement of Understanding, including the USTDA mandatory provisions contained therein, it will, upon USTDA's request, make an appropriate refund to USTDA."

(b) Client's Approval of the U.S. Firm's Invoice

(i) The invoice for a mobilization payment must be approved in writing by the Client.

(ii) For Agreement of Understanding performance milestone payments, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the U.S. Firm have been performed satisfactorily, in accordance with applicable Agreement of Understanding provisions and the terms and conditions of the USTDA Grant Agreement."

(iii) For final payment, the following certification by the Client must be provided on the invoice or separately:

"The services for which disbursement is requested by the U.S. Firm have been performed satisfactorily, in accordance with applicable Agreement of Understanding provisions and terms and conditions of the USTDA Grant Agreement. The Final Report submitted by the U.S. Firm has been reviewed and approved by the Client. "

(c) USTDA Address for Disbursement Requests

Requests for disbursement shall be submitted by courier or mail to the attention of the Finance Department at USTDA's address listed in Clause M below.

(4) Termination

In the event that the Agreement of Understanding is terminated prior to completion, the U.S. Firm will be eligible, subject to USTDA approval, for reasonable and documented costs which have been incurred in performing the Terms of Reference prior to termination, as well as reasonable wind down expenses. Reimbursement for such costs shall not exceed the total amount of undisbursed Grant funds. Likewise, in

the event of such termination, USTDA is entitled to receive from the U.S. Firm all USTDA Grant funds previously disbursed to the U.S. Firm (including but not limited to mobilization payments) which exceed the reasonable and documented costs incurred in performing the Terms of Reference prior to termination.

I. USTDA Final Report

(1) Definition

"Final Report" shall mean the Final Report described in the attached Annex I Terms of Reference or, if no such "Final Report" is described therein, "Final Report" shall mean a substantive and comprehensive report of work performed in accordance with the attached Annex I Terms of Reference, including any documents delivered to the Client.

(2) Final Report Submission Requirements

The U.S. Firm shall provide the following to USTDA:

(a) One (1) complete version of the Final Report for USTDA's records. This version shall have been approved by the Client in writing and must be in the English language. It is the responsibility of the U.S. Firm to ensure that confidential information, if any, contained in this version be clearly marked. USTDA will maintain the confidentiality of such information in accordance with applicable law.

and

(b) One (1) copy of the Final Report suitable for public distribution ("Public Version"). The Public Version shall have been approved by the Client in writing and must be in the English language. As this version will be available for public distribution, it must not contain any confidential information. If the report in (a) above contains no confidential information, it may be used as the Public Version. In any event, the Public Version must be informative and contain sufficient Project detail to be useful to prospective equipment and service providers.

and

(c) Two (2) CD-ROMs, each containing a complete copy of the Public Version of the Final Report. The electronic files on the CD-ROMs shall be submitted in a commonly accessible read-only format. As these CD-ROMs will be available for public distribution, they must not contain any confidential information. It is the responsibility of the U.S. Firm to ensure that no confidential information is contained on the CD-ROMs.

The U.S. Firm shall also provide one (1) copy of the Public Version of the Final Report to the Foreign Commercial Service Officer or the Economic Section of the U.S. Embassy in Host Country for informational purposes.

(3) Final Report Presentation

All Final Reports submitted to USTDA must be paginated and include the following:

(a) The front cover of every Final Report shall contain the name of the Client, the name of the U.S. Firm who prepared the report, a report title, USTDA's logo, USTDA's mailing and delivery addresses. If the complete version of the Final Report contains confidential information, the U.S. Firm shall be responsible for labeling the front cover of that version of the Final Report with the term "Confidential Version." The U.S. Firm shall be responsible for labeling the front cover of the Public Version of the Final Report with the term "Public Version." The front cover of every Final Report shall also contain the following disclaimer:

"This report was funded by the U.S. Trade and Development Agency (USTDA), an agency of the U. S. Government. The opinions, findings, conclusions or recommendations expressed in this document are those of the author(s) and do not necessarily represent the official position or policies of USTDA. USTDA makes no representation about, nor does it accept responsibility for, the accuracy or completeness of the information contained in this report."

(b) The inside front cover of every Final Report shall contain USTDA's logo, USTDA's mailing and delivery addresses, and USTDA's mission statement. Camera-ready copy of USTDA Final Report specifications will be available from USTDA upon request.

(c) The U.S. Firm shall affix to the front of the CD-ROM a label identifying the Host Country, USTDA Activity Number, the name of the Client, the name of the U.S. Firm who prepared the report, a report title and the following language:

"The U.S. Firm certifies that this CD-ROM contains the Public Version of the Final Report and that all contents are suitable for public distribution."

(d) The U.S. Firm and any subcontractors that perform work pursuant to the Grant Agreement must be clearly identified in the Final Report. Business name, point of contact, address, telephone and fax numbers shall be included for U.S. Firm and each subcontractor.

(e) The Final Report, while aiming at optimum specifications and characteristics for the Project, shall identify the availability of prospective U.S. sources of supply. Business name, point of contact, address, telephone and fax numbers shall be included for each commercial source.

(f) The Final Report shall be accompanied by a letter or other notation by the Client which states that the Client approves the Final Report. A certification by the Client to this effect provided on or with the invoice for final payment will meet this requirement.

J. Modifications

All changes, modifications, assignments or amendments to this Agreement of Understanding, including the appendices, shall be made only by written agreement by the parties hereto, subject to written USTDA approval.

K. Technical Assistance Schedule

(1) Technical Assistance Completion Date

The completion date for the Technical Assistance, which is January 31, 2013, is the date by which the parties estimate that the Technical Assistance will have been completed.

(2) Time Limitation on Disbursement of USTDA Grant Funds

Except as USTDA may otherwise agree, (a) no USTDA funds may be disbursed under this Agreement of Understanding for goods and services which are provided prior to the Effective Date of the Grant Agreement; and (b) all funds made available under the Grant Agreement must be disbursed within four (4) years from the Effective Date of the Grant Agreement.

L. Business Practices

The U.S. Firm agrees not to pay, promise to pay, or authorize the payment of any money or anything of value, directly or indirectly, to any person (whether a governmental official or private individual) for the purpose of illegally or improperly inducing anyone to take any action favorable to any party in connection with the Technical Assistance. The Client agrees not to receive any such payment. The U.S. Firm and the Client agree that each will require that any agent or representative hired to represent them in connection with the Technical Assistance will comply with this paragraph and all laws which apply to activities and obligations of each party under this Agreement of Understanding, including but not limited to those laws and obligations dealing with improper payments as described above.

M. USTDA Address and Fiscal Data

Any communication with USTDA regarding this Agreement of Understanding shall be sent to the following address and include the fiscal data listed below:

U.S. Trade and Development Agency
1000 Wilson Boulevard, Suite 1600
Arlington, Virginia 22209-3901
USA

Phone: (703) 875-4357
Fax: (703) 875-4009

Fiscal Data:

Appropriation No.:	1111/121001
Activity No.:	2011-51017A
Reservation No.:	2011189
Grant No.:	GH201151189

N. Definitions

All capitalized terms not otherwise defined herein shall have the meaning set forth in the Grant Agreement.

O. Taxes

USTDA funds provided under the Grant Agreement shall not be used to pay any taxes, tariffs, duties, fees or other levies imposed under laws in effect in Host Country. Neither the Client nor the U.S. Firm will seek reimbursement from USTDA for such taxes, tariffs, duties, fees or other levies.

ANNEX 5

Annex I

Terms of Reference

Objective

The objective of the Technical Assistance for the Rio de Janeiro State Government Data Center and Information Technology Modernization and Integration Project ("Technical Assistance ") is two-fold. First, it is to review and refine the over-arching technology strategy of the State of Rio de Janeiro to develop a clear, non-technical vision guiding Rio Information and Communication Technology (ICT) investments that will clearly describe how information infrastructure will facilitate continued improvement in the core business processes of Rio as a whole, and specify technical standards that will help make disparate state ICT investments more interoperable and complementary. The second purpose of these terms of reference is to determine the fundamental design requirements, budget, and an implementation plan for the Rio state data center project in light of the refined technology strategy. These strategy and technical design tasks shall be carried out in parallel.

The Technical Assistance tasks are as follows:

Task 1 – Preliminary Analysis

The purpose of this task is to ensure that the U.S. Firm is well-versed in the strategy, targets and policy commitments of the Rio de Janeiro State Government and has begun to define an approach towards refining the Rio state technology strategy in light of best international practice. Immediately upon the start of the Technical Assistance, the U.S firm selected by the Centro de Tecnologia da Informação e Comunicação do Estado do Rio de Janeiro ("U.S. Firm") shall conduct a preliminary analysis surveying:

- Government of Rio de Janeiro state policy commitments and economic development strategies;
- International good practice in information architecture design and change initiatives for complex organizations; and
- International good practice in e-Government and ICT-enabled public services, particularly focusing on cases where large-scale investments in information infrastructure have been undertaken.

The U.S. Firm shall review, at a minimum:

- The Rio de Janeiro state ICT strategy documents, or the ICT strategy documents of Rio state Agencies, secretariats, or offices;

- Existing key Rio state information infrastructure including data centers and public networks;
- Current business research results, culling lessons on development of effective information architecture visions from complex organizations and global firms from business journals (e.g. Sloan Business Review, Harvard Business Review, McKinsey Quarterly, etc.) or researchers of reference; and
- At least two successful large-scale e-Government/e-Governance implementation strategies in developed or large emerging economies that shall be relevant to the Rio state context.

Data provided by the Rio state government will likely be in Portuguese and it will be the U.S. Firm's responsibility to translate the information for its use, if necessary.

Task 1 Deliverables:

Deliverable 1.1: The U.S. Firm shall prepare an **8-10-page report** (excluding appendices and Executive Summary), in Portuguese, summarizing methodology of review and selection of relevant examples, and highlighting approaches to:

- Potentially applicable private sector information architecture strategies;
- Potentially applicable large-scale public sector information architectures and strategies observed in at least two developed or large emerging economies that appear to be strongly relevant to the Rio de Janeiro state context; and
- A set of provisional recommendations for pursuing information architecture development for e-Government/e-Governance in Rio de Janeiro State.

Deliverable 1.2: In addition, the U.S. Firm shall prepare a 15-20 slide (approximately 20 minute) PowerPoint presentation, in Portuguese, for delivery to the Centro de Tecnologia da Informação e Comunicação do Estado do Rio de Janeiro (PRODERJ), Rio de Janeiro State Agencies and any other stakeholders identified by PRODERJ. The presentation shall summarize the methodology and findings of the preliminary analysis and present provisional recommendations for developing an over-arching e-Government/e-Governance architecture for the state of Rio. The PowerPoint presentation shall include all citations and any key discussion points from the preliminary analysis report in the notes section of relevant slides.

All deliverables under Task 1 shall be transmitted to PRODERJ for review and comment before the U.S. Firm travels to Rio de Janeiro.

Task 2: Review and Refine the Over-Arching ICT Strategy for the State of Rio de Janeiro

The purpose of this task is to create a high-level picture of the current business processes and workflow observed by the Rio State Government across all offices, departments and agencies, including internal state government processes as well as points of interface with the general public; and to note the primary ICT infrastructures and applications (e.g. networks, storage, servers, online platforms, desktop applications) currently supporting these processes or services.

The U.S. Firm shall visit offices, departments, and agencies of the state government to develop a map of the workflow and business processes between them, and with the general public, from a transactional perspective (i.e. what products or services are produced in the Rio state operating unit and provided to other operating units or the general public, and what products or services does the operating unit need from other units or the general public to do its work effectively). The U.S. Firm shall visit:

- *Vice-Governadoria do Estado do Rio de Janeiro;*
- *Secretaria de Estado da Casa Civil – CASACIVIL;*
- *Secretaria de Estado de Governo – SEGOV;*
- *Secretaria de Estado de Planejamento e Gestão – SEPLAG;*
- *Secretaria de Estado de Fazenda – SEFAZ;*
- *Secretaria de Desenvolvimento Econômico, Energia, Indústria e Serviços – SEDEIS;*
- *Secretaria de Estado de Obras – SEOBRAS;*
- *Secretaria de Estado de Segurança – SESEG;*
- *Secretaria de Estado de Saúde e Defesa Civil – SESDEC;*
- *Secretaria de Estado de Educação – SEEDUC;*
- *Secretaria de Estado de Ciência e Tecnologia – SECT;*
- *Secretaria de Estado de Habitação – SEH;*
- *Secretaria de Estado de Transportes – SETRANS;*
- *Secretaria de Estado do Ambiente – SEA;*
- *Secretaria de Estado de Agricultura, Pecuária, Pesca e Abastecimento – SEAPPA;*
- *Secretaria de Estado de Trabalho e Renda – SETRAB;*
- *Secretaria de Estado de Cultura – SEC;*
- *Secretaria de Estado de Assistência Social e Direitos Humanos – SEASDH;*
- *Secretaria de Estado de Turismo, Esporte e Lazer - SETE;*
- *Centro de Tecnologia da Informação e Comunicação do Estado do Rio de Janeiro – PRODERJ;*
- *Fundação Escola de Serviço Público do Estado do Rio de Janeiro – FESP;*
- *Empresa de Assistência Técnica e Extensão Rural do Estado do Rio de Janeiro) – EMATER/RIO;*

- *Companhia de Turismo do Estado do Rio de Janeiro) – TURISRIO;*
- *Procuradoria-Geral do Estado do Rio de Janeiro – PGE;*
- *Companhia Estadual de Habitação) – CEHAB;*
- *Instituto de Segurança Pública do Rio de Janeiro - ISP/RJ;*
- *Departamento de Trânsito do Estado do Rio de Janeiro – DETRAN/RJ;*
- *Centro de Educação Superior a Distância do Estado do Rio de Janeiro – CEDER;J*
- *Imprensa Oficial do Estado do Rio de Janeiro - IO/RJ;*
- *Fundação de Apoio à Escola Técnica do Estado do Rio de Janeiro – FAETEC;*
- *Fundo Único de Previdência Social do Estado do Rio de Janeiro – RIOPREVIDENCIA; and*
- *Policia Militar do Estado do Rio de Janeiro – PMERJ.*

The U.S. Firm shall specifically seek to identify common needs across State government offices to access services or data to do their jobs effectively including, at a minimum:

- Information technology infrastructure;
- Desktop applications;
- Web applications;
- Budget or finance services;
- Human resources services;
- Supply chain or procurement services;
- Property or facilities management;
- Document or records management;
- Legal services; and
- Customer interaction/customer relationship management support.

The U.S. Firm shall note specific applications in use by state government staff to do their jobs including, at a minimum:

- Financial management and planning;
- Human resources management;
- Database management and resources;
- Web applications;
- Online portals; and
- Desktop applications.

Task 2 Deliverables:

Deliverable 2.1: The U.S. Firm shall develop, with input from PRODERJ, a standard questionnaire in Portuguese that shall be used during the survey of business processes, applications, and information infrastructure (e.g. networks,

data centers) of Rio state operating units. Questionnaires that have been filled out shall be appended to the final report.

Deliverable 2.2: The U.S. Firm shall prepare a comprehensive diagram or series of diagrams, in English, mapping current high level business processes within the state government, and between government and the public, from a transactional perspective. The U.S. Firm shall summarize and highlight opportunities for sharing processes, services, and data across state government operating units that are illustrated by the diagrams.

Task 3: Determine Rio State Data Center Engineering Requirements, Total Cost of Ownership, and Implementation Plan

The purpose of this task is to specify comprehensive design and engineering requirements, a budget, and an implementation plan for construction of Rio State data center in light of a refined technology strategy and detailed understanding of Rio State Government business processes and e-Government architecture vision.

Sub-Task 3.1: Inventory of Requirements for Supporting Critical and Non-Critical Rio State Applications

The purpose of this sub-task is to ensure that all critical and non-critical Rio State business processes that are supported by information technology solutions and applications are adequately supported over the expected useful life of the Rio State data center, and to help the state of Rio identify opportunities for cost savings by differentiating between requirements for critical and non-critical applications, and in-house versus third party services.

3.1.1: Comprehensive Inventory of Critical and Non-Critical Rio State Applications

The U.S. Firm shall prepare a summary inventory of applications in use by Rio State and specify the:

- storage;
- servers;
- backup power;
- network capacity; and
- any other technical requirements necessary for proper support and functioning of these Rio state applications.

The U.S. Firm shall, with government input, specify which applications are critical for supporting Rio state business processes, and which applications are less critical.

3.1.2: Project Required Capacity and Growth of Critical and Non-critical Applications Supported by the Data Center

Building on the applications inventory and requirements specified under sub-task 3.1.1, and in light of the Rio state technology strategy, the U.S. Firm shall project required storage, power, backup power, servers, network capacity and any other technical requirements necessary for proper support and functioning of critical Rio State applications over the projected usable life of the data center infrastructure.

In addition the U.S. Firm shall project, with state government input, the requirements for supporting non-critical applications that may require less investment in backup power, network capacity, computing power, or other resources; and shall suggest strategies for supporting these applications more economically than the critical applications (i.e., using the current PRODERJ data center assets).

3.1.3: Outline Capital and Operating Cost Implications of a Minimum of Three Options for Supporting Critical and Non-critical Applications to be Supported by the Data Center

The U.S. Firm shall investigate and detail the capital and operating cost implications of three options for supporting critical and non critical applications including, at a minimum:

- Treating all applications as "critical, in-house" applications that will be supported to the highest possible degree of performance and reliability by the Rio state data center;
- Differentiating between "critical" and "non-critical" applications that will be supported "in-house" by the Rio state data center;

The capital and operating cost analysis for these options shall examine, at a minimum:

- Servers and server racks;
- Storage assets;
- Switches and routers;
- Network capacity;
- Power supply and control;
- Standby power;
- Computing assets;
- Cooling requirements;
- Software and licenses; and
- Network operations center requirements.

Sub-Task 3.1 Deliverables:

Deliverable 3.1.1.: The U.S. Firm shall provide an inventory of critical and non-critical applications, and of current requirements for supporting critical and non-critical Rio state ICT applications, including power supply, backup power, data storage, network capacity, servers, computing power, and any other technical requirements to support these applications.

Deliverable 3.1.2: The U.S. Firm shall provide a projection by application, and in light of Rio State strategy, of the expected future requirements for supporting critical and non-critical Rio state ICT applications including power supply, backup power, data storage, network capacity, servers, computing power, and any other technical requirements that will be required to support critical and non-critical applications over the projected life of the Rio State data center.

Deliverable 3.1.3: The U.S. Firm shall provide a spreadsheet model capturing and comparing capital and operating costs of at least three scenarios for supporting "critical" or "non-critical" Rio state applications over the useful life of the data center.

Sub-Task 3.2: Estimate and Project Data Center Power Supply Requirements and Cost

The purpose of this sub-task is to estimate over-all power supply requirements for the projected life of the Rio state data center, and to help Rio state evaluate and choose the right power supply options for its strategy and budget.

Building on the inventory and projections made under sub-task 3.1, the U.S. Firm shall consolidate current and projected future power supply requirements for critical and non-critical applications to estimate total power requirements for the Rio state data center over its projected useful life. The U.S. Firm shall consider, at a minimum:

- Critical loads for server and storage equipment;
- The loads of other equipment located in the data center such as switches, routers, and computers;
- Future loads in the data center based on Rio state's expected future needs;
- Other power loads associated with the data center, such as lighting, cooling, standby power, and generators; and
- Mean time to repair for any critical power supply solutions.

The U.S. Firm, with Government inputs, shall validate these estimates and projections through consultations with, at a minimum:

- Data center personnel (system and network administrators) to estimate the power requirements for all devices located in the data center;
- The power requirements of heating and cooling systems;
- Rio state personnel and stakeholders who can aid in determining future requirements;
- An electrical engineer; and
- The power utility company that will supply the data center.

The U.S. Firm shall estimate total cost of power supply over the useful life of the infrastructure, based on assumptions these personnel and resource people consider to be reasonable.

Sub-Task 3.2 Deliverables:

Deliverable 3.2.1: The U.S. Firm shall provide an estimate, by quarter, of projected power supply requirements for the Rio state data center over its expected useful life.

Deliverable 3.2.2: The U.S. Firm shall provide an estimate, by quarter, of projected power costs over the expected useful life of the Rio State data center.

Deliverable 3.2.3: The U.S. Firm shall provide a document specifying technical requirements that an emergency generator must fulfill.

Deliverable 3.2.4: The U.S. Firm shall provide a schematic diagram, in English, describing, at a minimum, the recommended power supply installation including utility power, emergency generator power, a sub-station, and power distribution.

Sub-Task 3.3: Specify and Project Data Center Cooling Requirements and Cost

The purpose of this sub-task is to estimate over-all cooling requirements for the projected life of the Rio state data center, and to help Rio state evaluate and choose the right equipment options for its strategy and budget.

Building on the inventory and projections made under sub-task 3.1, the U.S. Firm shall consolidate current and projected future cooling requirements for critical and non-critical applications to estimate total cooling requirements for the Rio state data center over its projected useful life.

The U.S. Firm shall consider, at a minimum, the heat output from:

- Servers and storage devices;
- Other IT equipment including routers, switches and computers;
- Projected future equipment;
- The standby power equipment;
- Power distribution systems;
- Lighting appliances;
- Redundant cooling capacity of business continuity systems; and
- Personnel working in the data center.

The U.S. Firm shall validate these projections through consultations with, at a minimum:

- Current data center and IT personnel;
- A mechanical engineer experienced in the design, installation and testing of heating and cooling systems for data centers, as well as the power requirements of these systems; and
- 2-3 cooling system vendors to detail the potential equipment (e.g. air cooled versus water cooled systems), installation costs, and power consumption needed to meet the cooling requirements of the data center.

Sub-Task 3.3 Deliverables:

Deliverable 3.3.1: The U.S. Firm shall provide an estimate, by year, of projected cooling requirements for the Rio state data center over its expected useful life.

Deliverable 3.3.2: The U.S. Firm shall provide an estimate, by year, of projected cooling equipment capital and operating costs over the expected useful life of the Rio state data center, comparing the expected cost of ownership of alternative cooling options (e.g. air cooled versus water-cooled systems) over the expected useful life of the data center.

Sub-Task 3.4: Specify Standby Power Requirements

The purpose of this sub-task is to define and estimate over-all standby power requirements for the Rio State Data Center, and to help Rio state evaluate and choose the right equipment options for its strategy and budget.

Based on Rio state's technology strategy, the U.S. Firm shall, with Government input, estimate the standby power requirements for the Rio state data center. The U.S. Firm, with Government input, shall specify what criteria will be used in determining standby power requirements (e.g. until an emergency generator can be started, until servers and other computing assets can be shut down safely, etc.)

The standby power requirements estimates shall be based on an understanding of Rio state technology strategy and will reflect, at a minimum:

- Critical nature of key applications and their availability;
- Redundant standby power capabilities for business continuity;
- Rio state's tolerance for risk tolerance;
- Power requirements for servers and equipment;
- Cooling requirements;
- Future power and cooling requirements;
- Emergency lighting;
- Physical security and access to the data center; and
- Mean time to repair standby power solutions.

The U.S. Firm shall validate standby power estimates with, at a minimum:

- Rio state stakeholders to determine risk tolerance;
- IT staff;
- An electrical engineer; and
- Vendors who can outline equipment options and costs for standby power devices such as UPS, generators, or flywheel technologies.

Sub-Task 3.4 Deliverables:

Deliverable 3.4.1: The U.S. Firm shall provide an estimate, by year, of projected standby power requirements for the Rio state data center over its expected useful life.

Deliverable 3.4.2: The U.S. Firm shall provide an estimate, by year, of projected standby power capital equipment and operating costs over the expected useful life of the Rio state data center, comparing the expected total cost of ownership of alternative standby power options (e.g. batteries versus flywheels).

Sub-Task 3.5: Specify Fire Protection Requirements

The purpose of this sub-task is to specify fire protection requirements to ensure safety of personnel, protection of critical equipment, and continuity of data center operations in the event of a fire.

The U.S. Firm shall specify, with Government input, requirements for the fire protection systems for the data center including, at a minimum:

- Smoke and heat detection systems;
- Notification or alarm systems;
- Power-off systems for emergencies;
- Fire suppression systems (e.g. sprinklers or fire retardant agents); and
- Fire extinguishers.

In specifying these requirements, the U.S. Firm shall consult, at a minimum:

- State and Federal regulations and building codes relevant to fire protection;
- Research into global good practice for data center fire protection; and
- Vendors providing data center fire protection products and systems to determine the equipment options and costs.

Sub-Task 3.5 Deliverable:

The U.S. Firm shall provide a detailed recommendation of fire protection system requirements including recommended equipment, locations, and cost of deployment over the expected useful life of the data center.

Sub-Task 3.6: Estimate Data Center Size

The purpose of this sub-task is to estimate the size of the data center in accordance with present and future requirements, in light of the Rio state technology strategy and budget.

The U.S. Firm shall estimate the total amount of floor space required for the data center, considering, at a minimum, space for:

- Information infrastructure assets;
- Power, standby power, and cooling assets;
- Employee workspace;
- Network management and control center space;
- Ducting and cabling;
- Entrance and exit space (for people, vehicles, ducts or cables); and
- Redundant power, cooling, storage, computing or other assets required for business continuity.

The U.S. Firm shall consult, at a minimum:

- Rio state IT personnel; and
- Rio state building or facilities managers.

Sub-Task 3.6 Deliverable:

The U.S. Firm shall provide a calculation and summary recommendation of total minimum floor space required for the expected useful life of the data center.

Sub-Task 3.7: Specify Requirements for Physical Location, Layout and Design

The purpose of this task is to determine optimal allocation of data center space to facilitate workflow and ensure adequate space for present and future data center assets in light of Rio State technology strategy and budget.

Building on requirements gathered and refined under sub-tasks C.1-C.6, the U.S. Firm shall develop, with Rio State Government input, a model layout of the data center to house present and future computing, power, cooling, fire protection, standby power, and all other information infrastructure assets. The Contactor shall consider, at a minimum:

- Workflow within the data center facility;
- Physical security;
- Location of computing and storage assets;
- Location of emergency power supply assets;
- Location of standby power assets;
- Location of cooling system assets;
- Location of network management and control center space;
- Most efficient paths for ducting and cabling; and
- Entrance and exit (for people, vehicles, ducts or cables).

The Contactor shall consult, at a minimum:

- Current data center personnel; and
- Rio state building or facilities managers.

Sub-Task 3.7 Deliverable:

A diagram or series of diagrams, in English, describing the recommended layout of the data center, embodying recommendations for total physical space, enhancing physical security, observing the most efficient pathways for cabling and cooling systems, and facilitating workflow in the data center facility.

Sub-Task 3.8: Legal and Regulatory Survey

The purpose of this task is to identify the over-arching policy and regulatory parameters framing Rio de Janeiro state ICT strategy and infrastructure investments. Working from the applied understanding of best practices for large scale public ICT infrastructure including networks, data centers, and web platforms, the U.S. Firm shall, with Government input, survey the legal and regulatory environment of Rio State (PRODERJ may suggest specific aspects of IT and telecommunications legislation and regulatory code, in addition to Rio State and Municipal regulations, to review), in particular identifying strategies to:

- Identify necessary permits or licenses required for Rio state data center, potentially including such permits as those for radio electric spectrum, right-of-way, or power generation;

- assess viability of innovative financing strategies that may include public-private partnerships investments including potential financial or tax incentives; and

- Encourage innovation through financial and non-financial measures.

Sub-Task 3.8 Deliverable: The U.S. Firm shall produce a Legal and Regulatory Survey in Portuguese of all relevant aspects of the policy and regulatory environment for building and financing the Rio State Data Center. The review may include: securing necessary licenses and clearances suggested by the infrastructure planning (e.g. radio electric spectrum, right of way, power generation;) and modalities of potential public-private partnerships for building the Rio state data center within the legal and regulatory environment of Brazil and Rio state. The findings of this survey shall be summarized in English for the Final Report.

Sub-Task 3.9: Business Continuity and Disaster Recovery Plan

The purpose of this task is to integrate business continuity and disaster recovery considerations at the design phase of the Rio state data center, and to ensure that these are reflected in a rigorous and effective Business Continuity and Disaster Recovery Plan. The U.S. Firm shall, with Government input, identify applications, hardware, software, IT support staff, and networks (local, wide area, "storage area") that support critical Rio state business functions.

The U.S. Firm shall, with Government input, develop a plan to capture a complete replica—at least daily—of, at a minimum:

- Operating systems for critical applications, including updates or patches;
- Critical applications in the environment, including any updates or patches; and
- All critical data.

The U.S. Firm shall, with Government input, specify backup hardware and design these backup systems so as to ensure instantaneous access to this replica.

The U.S. Firm shall, with Government input, develop written, step-by-step documentation on how to recover the replica on backup hardware.

The U.S. Firm shall, with Government input, develop a testing plan and define the frequency of backup tests to be conducted during normal operation of the Rio State Data Center.

The U.S. Firm shall, with Government input, define locations used for storing replicas of the Rio State Data Center, considering in particular how to diversify among types of potential threat to the Rio State digital assets (e.g. different potential for natural disasters among backup sites used).

The U.S. Firm shall, with Government input, identify redundant or alternative options for key aspects of maintaining Data Center operation, including, at a minimum:

- IT Staff for emergency operation;
- Data transmission routes;
- Electrical power sources;
- Air conditioning;
- Mean time to repair critical power, transmission, computing, cooling or other critical equipment;
- "Fail over" requirements for Servers supporting critical Rio State applications;
- "Fail over" requirements for storage supporting critical Rio State applications; and
- Viability of utilizing private sector "cloud computing" services for additional emergency redundancy (within the Rio state legal and regulatory framework).

The U.S. Firm shall, with Government input, outline a topology of the "storage area network," ensuring maximum availability of data assets to key applications, including potential links to redundant storage at other Rio State data centers.

Deliverable 3.9.1: The U.S. Firm shall provide a "storage area network" topology, including the IT assets of other Rio State entities for critical backup to and from the Rio State Data Center.

Deliverable 3.9.2: The U.S. Firm shall develop, with Government input, a Business Continuity and Disaster Recovery Plan that shall include, at minimum, redundancy of and key steps to restore:

- Communications infrastructure;
- Power infrastructure;
- Cooling infrastructure;
- Location of disaster recovery IT assets;
- Operation of potential disaster recovery site(s);
- Performance expectations for critical Rio State applications during an emergency;
- Data protection (including backups of disaster recovery site);
- Shut-down procedures for critical equipment;
- Required IT staff and availability for business continuity or disaster recovery emergencies;
- Availability of documentation for key equipment; and
- Access to the business continuity and disaster recovery plan itself.

Sub-Task 3.10 Evaluate Total Cost of Ownership of the Rio State Data Center

The purpose of this task is to demonstrate the impact of choices in computing, storage, power supply, standby power, cooling, fire protection, and data center size and layout on the total cost of ownership of the Rio State data center over its useful life, and to provide decision support to Rio State as it finalizes its data center investment decisions.

The U.S. Firm shall prepare a comprehensive spreadsheet model that captures options examined under sub-tasks 3.1-3.9 including, at a minimum:

- Water cooling versus air cooling systems;
- Battery standby power versus flywheel standby power;
- Supporting all applications as critical, versus treating only some applications as critical; and
- To detail the capital, operating, and power supply cost implications of each critical data center investment option and its impact on the Total Cost of Ownership of the Rio State data center over its expected useful life.

The spreadsheet model prepared by the U.S. Firm, with Government input, shall examine, at a minimum:

- Operating expenses;
- Maintenance expenses;
- Capital costs for critical equipment; and
- Estimated cost to build the data center.

The U.S. Firm shall, with Government input, make recommendations on final design and investment choices in light of the Rio state budget and IT development strategy.

Sub-Task 3.10 Deliverables:

Deliverable 3.10.1: The U.S. Firm shall develop a comprehensive spreadsheet model demonstrating the expected impact of critical design and investment decisions examined under tasks 3.1-3.7 on the Total Cost of Ownership of the Rio State data center, over is expected useful life.

Deliverable 3.10.2: The U.S. Firm shall provide PRODERJ with a final Rio state data center budget reflecting Total Cost of Ownership based on final design and investment choices validated by Rio state government.

Sub-Task 3.11 Develop Implementation Plan for the Rio State data center

The U.S. Firm shall, with Government input, outline a comprehensive project implementation plan for the construction of the Rio State data center.

The U.S. Firm shall prepare, with Government input, vendor-neutral bills of materials for equipment required for implementing recommendations under tasks 3.1-3.7, accompanied by the design requirements that key equipment are intended to meet.

The U.S. Firm shall prepare, with Government input, final diagrams, in English, corresponding to final design decisions of the physical layout of the data center, including, at a minimum:

- Data storage;
- Computing assets;
- Power supply;
- Backup power;
- Standby power;
- Space for sub-flooring, ducts and cables;
- Cooling system;
- Network operations center; and
- Employee workspaces.

Sub-Task 3.11 Deliverables:

Deliverable 3.11.1: The U.S. Firm shall develop a series of Gantt charts showing key project milestones and estimated project timelines for key aspects of the Rio state data center, as well as for critical phases (e.g. construction, equipment purchase, installation, migration of Rio state information assets, etc.)

Deliverable 3.11.2: The U.S. Firm shall develop vendor-neutral bills of materials for all equipment to be procured for the Rio state data center, including the engineering requirements the equipment will address.

Deliverable 3.11.3: The U.S. Firm shall provide PRODERJ with diagrams, in English, specifying the physical layout of the data center and installation of ducts and cables, storage assets, computing assets, cooling systems, power supply, backup power, standby power, employee workspace, and network operations center.

Sub-Task 3.12 Implementation Finance Plan for Rio State Data Center

The purpose of this task is to finalize a project implementation finance plan for making the Rio State Data Center a reality. The U.S. Firm shall assess the viability of project financing strategies involving finance institutions including, at a minimum:

- the State of Rio de Janeiro;
- the InterAmerican Development Bank;
- the Development Bank of Brazil; and
- Private Banks.

The U.S. Firm shall, with Government input, assess the viability of one or more public-private partnerships for the construction or operation of the Rio state data center, which may include:

- Operation of some aspect of the Rio state data center or government platform in partnership with private firms; or

- Potential involvement of private firms in investing in construction of Rio State Data Center, negotiating a rate of return on this investment with Rio State.

Sub-Task 3.12 Deliverables:

Deliverable 3.12.1 The U.S. Firm shall produce a comprehensive spreadsheet model that captures and integrates the findings of sub-Tasks C.1-C.10, including Total Cost of Ownership and a finalized implementation budget, to finalize an **Implementation Finance Plan** that weighs these capital and operating costs in relation to different Rio State budget scenarios over the expected useful life of the infrastructure.

Deliverable 3.12.2 The U.S. Firm shall prepare a written assessment of potential financing strategies including Rio State, the Brazilian Development Bank, the InterAmerican Development Bank, private lending institutions, and public-private partnerships.

The Sub-Task 3.12 Deliverables shall be included in the Final Report.

Sub-Task 3.13 Specify Guidelines for Selecting Data Center Construction Contractors

The purpose of this sub-task is to specify critical selection criteria for data center construction U.S. Firms.

The U.S. Firm shall, with Government input, outline criteria for evaluating data center construction contractors including, at a minimum:

- Experience constructing data centers of similar size and scope;
- Certifications in power use efficiency methodologies; and

- Demonstrated experience applying project management methodologies for successful construction of information infrastructure.

Deliverables Sub-Task 3.13

Deliverable 3.13.1: The U.S. Firm shall prepare a standardized interview questionnaire developed in Portuguese to help assess potential Contractors' experience, including a scoring system for potential Contractors' answers.

Deliverable 3.13.2: The U.S. Firm shall prepare a checklist for potential Contractors' references.

Task 4: Development Impact Assessment

The U.S. Firm shall conduct a development impact assessment detailing the development impact factors of the Project and provide a review of the Project's potential beneficial effects on the country. This analysis shall focus on the immediate impact that is likely after the technical assistance is provided. The U.S. Firm shall specifically address each of the following categories:

Market-Oriented Reform: The U.S. Firm shall provide a description of any regulation, laws, or institutional changes that are recommended and the effect they would have if implemented;

Infrastructure: The U.S. Firm shall provide a brief synopsis of the infrastructure impact specifying, for example, improvements in physical infrastructure (including telecommunications and power generation infrastructure, for example, total projected transition to shared telecommunications infrastructure) that would result from the Project. The U.S. Firm shall discuss the scale of construction/installation expected and comment on the capabilities of any recommended infrastructure improvements;

Capacity Building: The U.S. Firm shall assess the number and type of local job positions that would be needed to construct and operate the proposed energy optimization solutions, as well as the number of personnel who would require and receive training and describe such potential training program(s). The U.S. Firm shall estimate the number and type of jobs that would be created during the installation/construction phase if the U.S. Firm's recommendations are implemented distinguishing between temporary construction jobs and the those positions that would be created or sustained once construction is complete (or the number of jobs that would be lost due to labor-saving technology);

Technology Transfer and Productivity Enhancement: The U.S. Firm shall provide a description of any advanced technologies that would be utilized as a result of the project. A description of any efficiency that would be gained should be noted and any commercial contracts for licensing new technology that are recommended should be discussed; and

Other: The U.S. Firm shall describe any other developmental impacts or benefits that would result from the project, for example, follow-on or replication projects, safer workplace, enhanced good governance or improved financial revenue flows to Rio de Janeiro State.

Task 5: Preliminary Environmental Analysis

The U.S. Firm shall conduct a preliminary environmental impact study for the implementation of the Project with reference to local requirements and multi-lateral lending agencies (such as the World Bank). This review shall identify potential negative impacts of the Project. The U.S Firm shall briefly discuss the extent to which potential negative impacts can be mitigated, and develop plans for full environmental impact assessment or other studies in anticipation of the Project moving forward to the implementation stage, if necessary. In addition, the environmental analysis should also include a discussion of any legal issues that would impact the Project's viability or ability to move forward.

Task 6: Final Report

The U.S. Firm shall prepare and provide a comprehensive Final Report to PRODERJ, which shall contain the key findings, recommendations and conclusions of the Technical Assistance, and shall incorporate all other documents and/or reports provided pursuant to Tasks 1 through 5 above. The U.S. Firm shall identify the availability of potential U.S. sources of supply and prepare a U.S. supplier list which shall outline potential U.S. sources for procurement of goods and services necessary to develop the Rio State Data Center Project. The list shall include business name, point of contact, address, telephone and fax numbers for each commercial source, as well as a general description of products and services that may be procured

The U.S. Firm shall ensure that the Final Report is submitted in accordance with Clause I of Annex II of the Grant Agreement. The Final Report shall be a substantive and comprehensive report of work performed to carry out all of the tasks set forth in these Terms of Reference and shall include, among other things, an Executive Summary and all deliverables. Each task of these Terms of Reference shall form a separate chapter of the Final Report.

The U.S. Firm shall provide PRODERJ and USTDA with both the public and confidential versions of the Final Report in English. The preliminary analysis, PowerPoint presentation and questionnaires, may be left in Portuguese. The U.S. Firm shall prepare and provide to PRODERJ, USTDA and the U.S. Consulate in Sao Paulo, a

Public Version of the Final Report on CD-ROM. The CD-ROM version of the report shall include:

- Adobe Acrobat readable copies of all documents;
- Source files for all drawings in AutoCAD or Visio format; and
- Source files for all documents in MS Office 2000 or later format

Notes:

(1) The U.S. Firm is responsible for compliance with U.S. export licensing requirements, if applicable, in the performance of these Terms of Reference.

(2) The U.S. Firm and PRODERJ shall be careful to ensure that the public version of the Final Report contains no security or confidential information.

(3) PRODERJ and USTDA shall have an irrevocable, worldwide, royalty-free, non-exclusive right to use and distribute the Final Report and all work product that is developed under these Terms of Reference.

ANNEX 6

COMPANY INFORMATION

A. Company Profile

Provide the information listed below relative to the Offeror's firm. If the Offeror is proposing to subcontract some of the proposed work to another firm(s), the information requested in sections E and F below must be provided for each subcontractor.

1. Name of firm and business address (street address only), including telephone and fax numbers:

2. Year established (include predecessor companies and year(s) established, if appropriate).

3. Type of ownership (e.g. public, private or closely held).

4. If private or closely held company, provide list of shareholders and the percentage of their ownership.

5. List of directors and principal officers (President, Chief Executive Officer, Vice-President(s), Secretary and Treasurer; provide full names including first, middle and last). Please place an asterisk (*) next to the names of those principal officers who will be involved in the Technical Assistance.

6. If Offeror is a subsidiary, indicate if Offeror is a wholly-owned or partially-owned subsidiary. Provide the information requested in items 1 through 5 above for the Offeror's parent(s).

7. Project Manager's name, address, telephone number, e-mail address and fax number .

B. Offeror's Authorized Negotiator

Provide name, title, address, telephone number, e-mail address and fax number of the Offeror's authorized negotiator. The person cited shall be empowered to make binding commitments for the Offeror and its subcontractors, if any.

C. Negotiation Prerequisites

1. Discuss any current or anticipated commitments which may impact the ability of the Offeror or its subcontractors to complete the Technical Assistance as proposed and reflect such impact within the project schedule.

2. Identify any specific information which is needed from the Grantee before commencing contract negotiations.

D. Offeror's Representations

Please provide exceptions and/or explanations in the event that any of the following representations cannot be made:

1. Offeror is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of _____. The Offeror has all the requisite corporate power and authority to conduct its business as presently conducted, to submit this proposal, and if selected, to execute and deliver a contract to the Grantee for the performance of the Technical Assistance. The Offeror is not debarred, suspended, or to the best of its knowledge or

belief, proposed for debarment, or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. The Offeror has included, with this proposal, a certified copy of its Articles of Incorporation, and a certificate of good standing issued within one month of the date of its proposal by the State of _____. The Offeror commits to notify USTDA and the Grantee if they become aware of any change in their status in the state in which they are incorporated. USTDA retains the right to request an updated certificate of good standing.

3. Neither the Offeror nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

4. Neither the Offeror, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 3 above.

5. There are no federal or state tax liens pending against the assets, property or business of the Offeror. The Offeror, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

6. The Offeror has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The Offeror has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected Offeror shall notify the Grantee and USTDA if any of the representations included in its proposal are no longer true and correct at the time of its entry into a contract with the Grantee.

Signed: _____
(Authorized Representative)

Print Name: _____

Title: _____

Date: _____

E. Subcontractor Profile

1. Name of firm and business address (street address only), including telephone and fax numbers.

2. Year established (include predecessor companies and year(s) established, if appropriate).

F. Subcontractor's Representations

If any of the following representations cannot be made, or if there are exceptions, the subcontractor must provide an explanation.

1. Subcontractor is a corporation *[insert applicable type of entity if not a corporation]* duly organized, validly existing and in good standing under the laws of the State of _____. The subcontractor has all the requisite corporate power and authority to conduct its business as presently conducted, to participate in this proposal, and if the Offeror is selected, to execute and deliver a subcontract to the Offeror for the performance of the Technical Assistance and to perform the Technical Assistance. The subcontractor is not debarred, suspended, or to the best of its knowledge or belief, proposed for debarment or ineligible for the award of contracts by any federal or state governmental agency or authority.

2. Neither the subcontractor nor any of its principal officers have, within the three-year period preceding this RFP, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a federal, state or local government contract or subcontract; violation of federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, violating federal or state criminal tax laws, or receiving stolen property.

3. Neither the subcontractor, nor any of its principal officers, is presently indicted for, or otherwise criminally or civilly charged with, commission of any of the offenses enumerated in paragraph 2 above.

4. There are no federal or state tax liens pending against the assets, property or business of the subcontractor. The subcontractor, has not, within the three-year period preceding this RFP, been notified of any delinquent federal or state taxes in an amount that exceeds $3,000 for which the liability remains unsatisfied. Taxes are considered delinquent if (a) the tax liability has been fully determined, with no pending administrative or judicial appeals; and (b) a taxpayer has failed to pay the tax liability when full payment is due and required.

5. The subcontractor has not commenced a voluntary case or other proceeding seeking liquidation, reorganization or other relief with respect to itself or its debts under any bankruptcy, insolvency or other similar law. The subcontractor has not had filed against it an involuntary petition under any bankruptcy, insolvency or similar law.

The selected subcontractor shall notify the Offeror, Grantee and USTDA if any of the representations included in this proposal are no longer true and correct at the time of the Offeror's entry into a contract with the Grantee.

Signed: _____
(Authorized Representative)

Print Name: _____

Title: _____

Date: _____